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BULLETIN OF ZOOLOGICAL NOMENCLATURE

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Notices

(a) *Invitation to comment*. The Commission is authorised to vote on applications published in the *Bulletin of Zoological Nomenclature* six months after their publication but this period is normally extended to enable comments to be submitted. Any zoologist who wishes to comment on any of the applications is invited to send his contribution to the Executive Secretary of the Commission as quickly as possible.

(b) *Invitation to contribute general articles*. At present the *Bulletin* comprises mainly applications concerning names of particular animals or groups of animals, resulting comments and the Commission's eventual rulings (Opinions). Proposed amendments to the Code are also published for discussion.

Articles or notes of a more general nature are actively welcomed provided that they raise nomenclatural issues, although they may well deal with taxonomic matters for illustrative purposes. It should be the aim of such contributions to interest an audience wider than some small group of specialists.

(c) *Receipt of new applications*. The following new applications have been received since going to press for volume 55, part 4 (published on 18 December 1998). Under Article 80 of the Code, existing usage is to be maintained until the ruling of the Commission is published.

(1) *Platyphylax* McLachlan, 1871 (Insecta, Trichoptera): proposed designation of *Enoicyla frauenfeldi* Brauer, 1857 as the type species. (Case 3100). W. Mey & T. Nozaki.

(2) *Dumeticola thoracica* Blyth, 1845 (currently *Bradypterus thoracicus*; Aves, Passeriformes): proposed conservation of the specific name. (Case 3102). E.C. Dickinson & P.C. Rasmussen.

(3) *Orsodacne* Latreille, 1802 (Insecta, Coleoptera): proposed designation of *Chrysomela cerasi* Linnaeus, 1758 as the type species. (Case 3103). H. Silfverberg.

(4) *Staurocalyptus* Ijima, 1897 (Porifera, Hexactinellida): proposed designation of *S. glaber* Ijima, 1897 as the type species. (Case 3104). K.R. Tabachnick.

(5) *Cetopirus* Ranzani, 1817 (Crustacea, Cirripedia): proposed designation of *C. complanatus* Mörch, 1853 as the type species. (Case 3105). L.B. Holthuis.

(6) *Remipes pacificus* Dana, 1852 (currently *Hippa pacifica*; Crustacea, Anomura): proposed precedence over *R. marmoratus* Jacquinot, 1846. (Case 3106). C.B. Boyko & A.W. Harvey.

(7) *Catasarcus* Schönherr, 1840 (Insecta, Coleoptera): proposed conservation. (Case 3107). C.H.C. Lyal & R.T. Thompson.

(8) *Malaclemys littoralis rhizophorarum* Fowler, 1906 (currently *M. terrapin rhizophorarum*; Reptilia, Testudines): proposed conservation of the subspecific name. (Case 3108). C.H. Ernst & T.D. Hartsell.

(9) *Manis javanica* Desmarest, 1822 (Mammalia, Pholidota): proposed conservation of the specific name. (Case 3109). H.M. Smith, D.M. Armstrong, K. Adler, D. Chiszar & F. van Breukelen.

(d) *Rulings of the Commission.* Each Opinion published in the *Bulletin* constitutes an official ruling of the International Commission on Zoological Nomenclature, by virtue of the votes recorded, and comes into force on the day of publication of the *Bulletin*.

The International Commission on Zoological Nomenclature and its publications

The International Commission on Zoological Nomenclature was established in 1895 by the third International Congress of Zoology, and at present consists of 26 zoologists from 19 countries whose interests cover most of the principal divisions (including palaeontology) of the animal kingdom. The Commission is under the auspices of the International Union of Biological Sciences (IUBS), and members are elected by secret ballot of zoologists attending General Assemblies of IUBS or Congresses of its associated bodies such as the International Congress of Systematic and Evolutionary Biology (ICSEB). Casual vacancies may be filled between Congresses. Nominations for membership may be sent to the Commission Secretariat at any time.

The International Code of Zoological Nomenclature has one fundamental aim, which is to provide 'the maximum universality and continuity in the scientific names of animals compatible with the freedom of scientists to classify all animals according to taxonomic judgements'. The current (Third) Edition was published in 1985 by the International Trust for Zoological Nomenclature, acting on behalf of the Commission. A Fourth Edition is in course of preparation and will be published in 1999; its provisions will come into effect on 1 January 2000. A notice of some of the new provisions, particularly those affecting the availability of new names, is given on the World Wide Web (http://www.iczn.org).

Observance of the rules in the *Code* enables a biologist to arrive at the valid name for any animal taxon between and including the ranks of subspecies and superfamily. Its provisions can be waived or modified in their application to a particular case when strict adherence would cause confusion; however, this must never be done by an individual but only by the Commission, acting on behalf of all zoologists. The Commission takes such action in response to proposals submitted to it; applications should follow the instructions in the *Bulletin*, and assistance will be given by the Secretariat.

The Bulletin of Zoological Nomenclature is published four times each year. It contains applications for Commission action, as described above; their publication is an invitation for any person to contribute comments or counter-suggestions, which may also be published. The Commission makes a ruling (called an Opinion) on a case only after a suitable period for comments. All Opinions are published in the *Bulletin*, which also contains articles and notes relevant to zoological nomenclature; such contributions are invited and should be sent to the Secretariat.

The Commission's rulings are summarised in *The Official Lists and Indexes of Names and Works in Zoology*; a single volume covering the period 1895 1985 was published in 1987.

In addition to dealing with applications and other formal matters, the Commission's Secretariat is willing to help with advice on any question which may have nomenclatural (as distinct from purely taxonomic) implications.

The International Trust for Zoological Nomenclature is a charity (not-for-profit company) registered in the U.K. The Secretariat of the Commission is based in London, and the Trust is established there to handle the financial affairs of the Commission. The sale of publications covers less than half of the costs of the service given to zoology by the Commission. Support is given by academies, research councils, institutions and societies from a number of countries, and also by individuals; despite this assistance the level of income remains a severe restraint. Donations to the Trust are gratefully received and attention is drawn to the possible tax advantage of legacies.

For a more detailed discussion of the Commission and its activities and publications see BZN **48**: 295–299 (December 1991). A Centenary History of the Commission — *Towards Stability in the Names of Animals* — describes the development of zoological nomenclature and the role of the Commission; it was published in 1995.

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The International Code of Zoological Nomenclature

The Commission has formally approved the new (4th) edition of the International Code of Zoological Nomenclature and it will be published in 1999. Its provisions will come into effect on 1 January 2000. Notes about the new Code will be found on the Commission's Web Site (http://www.iczn.org).

Meanwhile, copies of the 3rd edition (published 1985) are still available from I.T.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk) or from A.A.Z.N., Attn. Dr D.G. Smith, MRC-159, National Museum of Natural History, Washington, D.C. 20560, U.S.A. (e-mail: smithd@nmnh.si.edu). The cost is £19 or $35 (including surface postage); members of the American and European Associations for Zoological Nomenclature are offered the reduced price of £15 or $29. Payment (cheques made out to 'ITZN' or 'AAZN') should accompany orders or should follow if the order is made by electronic means.

Towards Stability in the Names of Animals

The International Commission on Zoological Nomenclature was founded on 18 September 1895. In recognition of its Centenary a history of the development of nomenclature since the 18th century and of the Commission has been published entitled '*Towards Stability in the Names of Animals — a History of the International Commission on Zoological Nomenclature 1895–1995*' (ISBN 0 85301 005 6). It is 104 pages (250 x 174 mm) with 18 full-page illustrations, 14 being of eminent zoologists who played a crucial part in the evolution of the system of animal nomenclature as universally accepted today. The book contains a list of all the Commissioners from 1895 to 1995. The main text was written by R.V. Melville (former Secretary of the Commission) and has been completed and updated following his death.

Copies may be ordered from I.T.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk) *or* A.A.Z.N., Attn. Dr D.G. Smith, MRC-159, National Museum of Natural History, Washington, D.C. 20560, U.S.A. (e-mail: smithd@nmnh.si.edu).

The cost is £30 or $50 (including surface postage); members of the American and European Associations for Zoological Nomenclature are offered the reduced price of £20 or $35. Payment (cheques made out to 'ITZN' or 'AAZN') should accompany orders or should follow if the order is made by electronic means.

Recording and registration of new scientific names: a simulation of the mechanism proposed (but not adopted) for the International Code of Zoological Nomenclature

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Abstract. A discussion draft of the International Code of Zoological Nomenclature which was widely circulated in 1995 proposed that availability of new scientific names would in the future require, in addition to other conditions, their 'international notification' (by listing in *Zoological Record* (ZR)) within five years of their publication. The application of this proposal (later abandoned) has been simulated retrospectively, to test the criticisms and opposing comments which were expressed by the zoological community. Of 2142 molluscan genus-group names (Recent and fossil, but excluding Cephalopoda) that were established in the period 1980–1992, 260 (12.1%) which were explicitly published as new names were not recorded by ZR; 78% of the omitted names related to fossil taxa. The results highlight the differences between a non-critical recording system and a 'registration' mechanism; the latter would need to evaluate whether and when a scientific name met all the conditions of availability set by the Code. An available name would have to be registered with the accurate date of its establishment, since this determines its precedence. If, in addition to omitted new genus-group names, the unrecorded 'validation' of previously unavailable names and names recorded with an erroneous year of publication or a spelling error are considered, the difference between recording and 'registration' involved 357 names (16.7%). This demonstrates the necessity, as well as the magnitude of difficulty, of establishing a functional and comprehensive registration mechanism for new zoological names. The capture of new names by ZR could probably be improved by some mandatory ruling in the Code, but it is questionable whether a registration mechanism with an acceptably low rate of omission/error can be reached simply as a by-product of routine bibliographical indexing work, i.e. the normal goal of ZR. Any registration, as opposed to recording, system would have to be overseen by the International Commission on Zoological Nomenclature. Neither the Commission nor ZR presently have the capacity to register each year some 20,000 scientific names. However, with modern communication technology, funding through international organizations (e.g., UNESCO) and/or conventions (e.g., the Convention on Biological Diversity) should make it possible to set up a workable registration mechanism early in the 21st century.

Keywords. Nomenclature; taxonomy; registration of names; International Commission on Zoological Nomenclature; *Zoological Record*.

Introduction

A discussion draft of the 4th edition of the International Code of Zoological Nomenclature was widely circulated in 1995. One of the new proposals contained in

the draft was the 'international notification' of new names as a requirement for their admissibility (nomenclatural availability). It was put forward with the following wording:

'Article 11. Requirements.- To be available under the general conditions of availability ..., a name and, where relevant, a nomenclatural act must satisfy the following provisions ...:

(b) International notification of new names mandatory after [1996].- In order to ensure that the establishment of every new name published after [1996] is notified to zoologists internationally and accessible electronically, for a new name to be available the work in which it is published must be scanned for new names by ZR. *Zoological Record* is approved for the purposes of the Code by the International Union of Biological Sciences as the record of new names in zoology proposed after [1996].

(i) A new name recorded as such in *Zoological Record* within five years of its date of publication retains its original authorship and date.

(ii) If a new name has not been recorded as a new name in *Zoological Record* within five years of its first publication, it is deemed not to be available from that publication.'

Although the draft Code used the expression 'international notification', the proposal was perceived by the zoological community as a registration mechanism and it elicited two kinds of comments. Some zoologists opposed the principle of registration of new names as a breach of 'the freedom of taxonomic thought or action' which is preserved according to the Code's Preamble. Many others did not oppose the registration of new names in principle, but disagreed with the mechanism put forward in the discussion draft. The most thorough review of the proposal was by Crosskey (1995), who objected on both principle and practical grounds. He wrote as follows: 'This notion introduces into animal taxonomy two principles that have not existed previously: secondary responsibility and temporary availability. [The first involves] shifting onto the shoulders of the indexers/recorders for ZR the responsibility for whether new names shall ultimately live or die, [and] it is hard to see how [the second] new concept can contribute to the stability of names and their authorship and dating. ... Are we to abandon an important name on the technicality that it had failed to appear in ZR within the five-year time frame?'. Crosskey also drew attention to several practical difficulties: (a) determining with accuracy the dates of publication of a new name and of its recording in ZR, and thus whether or not the five-year criterion had been met; (b) ambiguities caused by the appearance of various formats of ZR (paper, disk, online) on different dates; (c) the fact that 'no biological database is ever 100% comprehensive' and that 'to expect ZR to unearth every new name in every publication is quite unrealistic'; and (d) the limited accessibility of ZR to systematists working in disadvantaged countries or locations.

Crosskey's objections were repeated or developed by others. For example, Kerzhner & Starobogatov (1995) said they could give examples of 'works in well-known journals which have not been scanned in five years; of available names listed as nomina nuda, or vice versa'. The subject of 'temporary availability' of new names was also discussed by Rosenberg (1995) and by staff of the Natural History Museum, London (Fortey et al., 1996). The latter emphasized the 'problems in ensuring complete coverage of all new names, particularly those appearing in texts

not using the Latin alphabet'. Many other sceptical comments were made on an Internet discussion forum entitled ICZN-4.

Some of these opposing comments were reviewed by Ride (1996), who proposed that registration by ZR should affect the relative precedence, but not the availability, of new names. Thus, of two available names considered to be synonyms, a name recorded within five years by ZR would have precedence over one not recorded; if neither name had been recorded the dates of publication would determine the precedence (as at present). Ride's revised proposal came late in the discussion process and no comments on it were published in the *Bulletin of Zoological Nomenclature*; some of the objections already made still applied to it and it was not pursued.

In view of the many opposing comments, recording by ZR as a requirement for availability was abandoned by the Editorial Committee and the 4th edition of the Code will not contain such a provision. However, many zoologists think that registration of new names has (or will) become a necessity in view of the mounting diversification of publication sources. Bouchet & Rocroi (1992) documented a 20% rate of omission from ZR for molluscan supraspecific new names published in 1960–1965. Their result elicited controversy (Edwards & Thorne, 1993; Bouchet & Rocroi, 1993; Thorne & Edwards, 1995). At the occasion of the discussion of the zoological Code during the ICSEB meeting in Budapest in August 1996, discussions with the Editorial Manager for ZR inspired me to explore further the recording of new names by ZR. More specifically, a simulation was attempted of what would have happened if the suggested Article 11b [see above] of the 1995 discussion draft of the Code had been in force in the last two decades. I should like to stress explicitly that the purpose of the present work is not to review the accuracy or accountability of ZR, but to contribute to the debate on registration of new zoological names.

Methods

I have simulated application of Article 11b of the discussion draft to a subset of the new scientific names established in 1980–1992, that is genus-group names of Recent and fossil Mollusca (excluding Cephalopoda). Names published after 1992 had not yet been fully captured by ZR or the Rocroi Index when the study was effected (1996–97) and were therefore not considered. The simulation compares the names recorded in two databases:

(i) names recorded by ZR, based mainly on the holdings of the British Library and the Natural History Museum, London, together with a small number of donated publications. ZR currently lists 6000 titles as active, and to produce the Mollusca Section it reviews each year an average of some 2400 publications and indexes names from about 2000 of these sources. ZR's policy is to record names according to the way in which they are published, i.e. if an author states that a name is new it will be listed as such, but if the name is presented with an existing author and date, ZR would treat the name as having been previously established.

(ii) names recorded in a database (thereafter called Rocroi Index) compiled with the assistance of Jean-Pierre Rocroi. ZR has been used as a starting point in the compilation, but other sources are also exploited (see Bouchet & Rocroi, 1992) and access to modern Russian and [former] Soviet literature was facilitated by a working visit to academic libraries in St Petersburg. All names have been checked against the original publication and against the criteria of availability set by the present Code.

After correlation of the names indexed in the two databases, differences (omissions, spellings, dates, authors) between ZR and the Rocroi Index were identified, and the publication source was checked again to confirm (or not) the difference. The study did not evaluate the effect of the 5 year-period proposed in the discussion draft; I have considered all names in the ZR database, irrespective of how long after the original publication the name was recorded.

Results

The Rocroi Index has recorded 2142 genus-group molluscan names that were established (i.e., were made available) in works published in 1980–1992. This list was compared by staff of the ZR with their own database and the deviations of ZR *vis à vis* the Rocroi Index are shown in Table 1. (Errors discovered in the Rocroi Index are not given here as they are irrelevant to this analysis).

Table 1. *Differences between Rocroi Index and ZR*

Available names omitted:		281
explicitly proposed as new	260	
not explicitly proposed as new	2	
validation of unavailable names	19	
Names recorded with erroneous date:		64
evidence for error internal	30	
evidence for error external	34	
Names recorded with erroneous spelling:		12
Total:		357

Unrecorded names explicitly proposed as new

Of the 2142 names, 260 (12.1%) that were explicitly proposed as new were not recorded by ZR, i.e. on average 20 new molluscan genus-group names were omitted every year. An examination of the omitted names showed that 46% of the sources containing them are non-periodical publications (books, congress proceedings, and so on), and that these contained 64% of the omitted names (Table 2). This finding confirms the common belief that non-periodical publications are less efficiently captured by ZR (and other records) than are periodicals. Obviously, the reason is that many such publications are not widely publicized and/or are difficult to locate.

Another common belief is that omissions mainly relate to 'obscure' sources and publications in languages using non-Latin alphabets. My findings indicate that China and the former USSR together accounted for 54% of the omissions, but that there were more unrecorded names published in the United States (49) than in the USSR (42). When the literature from 'western' countries (North America, western Europe, Australia, New Zealand) is considered together, it was the source of 50% of the total names and 36% of the number of omissions (Table 3).

When the number of omissions per country (or group of countries) is compared with the total number of names published in that country, we find a very uneven distribution. Nearly a quarter of the new names proposed in the Chinese literature

Table 2. *Number of publication sources and genus-group names omitted in ZR for the period 1980–1992* (P = periodicals, NP = non-periodical publications)

	Sources				*Names*			
	P	NP	Total	%	P	NP	Total	%
USSR	12	7	19	21.3	27	15	42	16.2
E. Europe	3	–	3	3.4	4	–	4	1.5
USA	9	2	11	12.4	21	28	49	18.8
W. Europe	8	10	18	20.2	17	20	37	14.2
Australia/NZ/Canada	3	–	3	3.4	7	–	7	2.7
Japan	2	2	4	4.5	3	7	10	3.8
China	3	19	22	24.7	3	95	98	37.7
Other Asia	2	–	2	2.2	5	–	5	1.9
S. America	6	1	7	7.9	6	2	8	3.0
Total	48	41	89	100.0	93	167	260	100.0

Table 3. *Rates of omission of new genus-group names*

	Total*	Omissions	% omissions
USSR	412	42	10.2
E. Europe	83	4	4.8
USA	360	49	13.6
W. Europe	505	37	7.3
Australia/NZ/Canada	216	7	3.2
Japan	102	10	9.8
China	395	98	24.8
Other Asia	29	5	17.2
S. America	40	8	20.0
Total	2142	260	12.1

*Total number of new molluscan genus-group names published in literature of stated region in 1980–1992

escaped ZR; with 20% of names omitted, South America came second in rates of omission, but only a small number of names were involved. Contrary to expectations, names in the literature published in the former USSR, eastern Europe, and Japan were not particularly under-recorded but 13.6% of the names published in the USA were omitted. My conclusion is that language of publication, even in alphabets using non-Latin characters (such as Chinese, Japanese and Russian), is not *per se* a source of incompleteness in the recording of new scientific names, which are always written in Latin characters and usually carry identifying labels such as 'gen. nov.' or 'sp. nov.'. In the case of China, for instance, the main cause of omission seems to be the structure of the literature, often involving books and series rather than periodicals.

Finally, and significantly, it may be noted that 78% of the unrecorded new molluscan names were proposed for fossils in works dealing mostly or only with geology and paleontology.

Names not explicitly proposed as new

Twenty-one additional names, meeting the criteria of availability, were omitted by ZR. Kerzhner & Starobogatov (1995) commented on the unintentional establishment of new names. They recognized different kinds, such as premature establishment because the papers of an author or his colleagues appear in an unexpected sequence; or establishment by persons unaware that the name had not yet been published; or, in the case of species-group names, 'upgrading' of infrasubspecific (and therefore unavailable) names. New names established accidentally in keys were also discussed by Noyes (1996). Only two of the 21 omitted but not explicitly new names belong to these kinds of unintentionally established names.

The other 19 are names that previously did not meet the criteria of availability (because no type species had been designated, or no description was provided) and became 'accidentally' available when the missing criteria were met. However, the authors who thus made a name available did not declare it to be new, but merely used it with citation of the original author(s) and date of the earlier publication that had not met the criteria of availability. Such names would not come to the attention of ZR as being new names.

In the forthcoming 4th edition of the Code, a new criterion of availability (Article 16.1) will require that a new scientific name should be explicitly indicated to be new. Failure to comply with this criterion will eliminate those rare instances (such as the two cases mentioned above) of premature or unintentional establishment of new names. However, the 'accidental establishment' of previously published, but unavailable, names will presumably continue and the disqualification of such names (because they are not indicated as being 'new') may cause as many problems as it will solve.

Other problems

Recording by ZR also raises issues of dates of publication. Sixty-four names, i.e. 3% of the total, were recorded with a date that differs from the actual date of publication; additional errors may have escaped my attention. Correct year of publication has been determined by internal evidence in the original publication itself (including statement of exact date of publication published in subsequent issues of a journal) or by external evidence, such as annotations by authors on reprints (generally not available to ZR) or library accession stamps. I should stress that I have considered an 'error' of date to be present only when the calendar year is involved; the precise month and day of publication would be important in a registration system but it has not been considered in the present study.

Finally, there are 12 names (0.6%) that are recorded by ZR with an erroneous spelling, thus leading to the impossibility of retrieving them electronically.

Discussion

Representativeness of the case study

The Mollusca Section of ZR contains the third highest average number of new genus-group names each year, and it is open to discussion whether the omission rate found in the present evaluation based on Mollusca (Cephalopoda excluded) is representative of other zoological groups. The fact that malacology is a discipline

where there are several hundred scientists actively publishing on all continents in many different languages (Bouchet, 1997) speaks in favour of representativity. However, the malacological literature includes a rather large proportion of paleontological literature. In this respect it is probably representative of such zoological groups as vertebrates, brachiopods, corals or ostracods (which are still more dominated by names based on fossils), but it is likely not representative of the majority of terrestrial arthropod groups; the latter account for the larger part of the new scientific names being proposed each year but the proportion in the paleontological literature is smaller.

In addition, management at ZR considers that the period studied (1980 1992) is not representative of their current working practices. In the last ten years, and particularly in the last five, ZR has made significant improvements in the coverage of journals and books and in indexing quality-control (J. Thorne, pers. com.); a new system was introduced in 1993. Of the names published in the last 5 years of the survey period (i.e. 1988–92), only 7.6% were omitted from ZR. This may be evidence of improvement, and ZR believes that this should be even more marked in the next 5 years (J. Thorne, pers. com.). Alternatively, this low percentage of omission may indicate that the Rocroi Index has not yet captured the more 'obscure' names published in the last 10 years.

Taking a 10% overall omission rate (compared with the 12.1% in the present molluscan study) as a working figure, and applying it to the ca. 2000 new genus-group names proposed yearly in zoology as a whole, my results suggest that some 200 names/year went unrecorded in the years under discussion.

Recording vs. Registration

Considering that ZR is by far the most complete indexing source, its failure to record as many as 200 genus-group names each year demonstrates the magnitude of difficulty of establishing a comprehensive recording mechanism for new zoological names. Omissions alone would undoubtedly be a source of nomenclatural instability, as this would affect precedence (and hence the selection of valid names) and homonymy. This certainly gives credence to the idea that registration of new scientific names has become a compelling necessity. However, the present study demonstrates the difference between recording, 'international notification' and registration. As noted above, ZR's recording policy is to index names according to the way in which they are published, i.e. if an author states that a name is new it will be indexed as new, with the date of publication indicated in the publication itself. 'International notification', as specified in the abandoned Article 11b of the draft Code, suggested recording by ZR as a condition of availability. In doing so, it could lead to notification of names that possibly would not meet one of the other criteria of availability set by the Code, or it could notify them with a wrong or inexact date of publication. In other words, 'international notification' would not have liberated a taxonomist from checking whether a notified name is nomenclaturally available and what its date of precedence is.

I believe that the difference between facultative ZR recording and mandatory registration (under ICZN auspices) of new names involves two steps:

(i) Improving the recording itself, a task that ZR is determined to achieve;

(ii) Evaluating whether names meet the criteria of availability set by the Code before they are registered, a task which it would be the responsibility of the Commission to

oversee (as is prescribed in the forthcoming 4th edition of the Code for [future] Parts of a retrospective 'List of Available Names in Zoology').

Improving the recording of zoological names

For registration of new zoological names to be voluntarily accepted by the scientific community, its mechanism must be perceived to be handling equally fairly all branches, subdisciplines and areas of practice of zoology. In this regard, the now-abandoned mechanism proposed in the 1995 discussion draft of the Code made several mistaken assumptions.

(a) The proposal assumed that *Zoological Record* is the universally used bibliographical index and that a Recommendation to send published materials to ZR for international notification would suffice to bring names to the attention of recorders. Whereas ZR is almost certainly more widely used by animal taxonomists than any other bibliographical service, especially by zoologists in developed countries, this is probably not the case with paleontologists, especially in China, the former USSR and economically less favoured countries. Such scientists might perhaps have little incentive to follow a Recommendation of the Code advising authors to draw to the attention of the ZR any new name published. General Recommendation 24 of the current Code already recommends authors to forward copies of their works to ZR at 'the earliest opportunity'; in practice, very few authors send reprints, but those who do come from many different countries (including China and Russia), suggesting that compliance with the Code is a function of individual preference or knowledge and is independent of country of origin.

(b) The proposal assumed that 'obscurity' and linguistic difficulties are the main reasons why new scientific names escape the nets of ZR. Indeed, most zoologists seem to accept the idea that, considering the explosion of the scientific literature, authors have a responsibility to make their work visible and known to the community at large. In other words, authors who publish their work in really obscure outlets cannot complain if their new scientific names escape recording by ZR. This is probably what Holthuis (1996) had in mind when he expressed the view that 'The objection that the ZR is incomplete is true, but this is mainly the fault of authors'.

The present work demonstrates that several factors combine their effects to explain the omissions and account for 'obscurity'.

(i) Although paleontological material is regarded by ZR as part of its field, geological material is not at the core of ZR coverage and any new zoological name published in an otherwise purely geological serial (or, worse, book) would be regarded as 'obscure' in these terms. This may explain why, as mentioned above, 78% of the unrecorded molluscan names had been proposed for fossils in pamphlets, books, serials or periodicals dealing mostly or only with geology and paleontology.

(ii) What may appear 'obscure' to, e.g., a western European zoologist may be mainstream literature to a Chinese paleontologist. Many of the Chinese books containing new names unrecorded by ZR have been published by Academia Sinica or its branches, or government publishing houses, and the new names in them were recorded by *Gushengwuxue Wenzhai* [Paleontological Abstracts], a quarterly published by the Academy's Institute of Geology and Paleontology in Nanjing, China. However, much of this material is hard to obtain without focused bibliographical research. For instance, I spent two weeks in academic libraries in St Petersburg

specially for the purpose of nomenclatural indexing, and I correspond with the library of the Institute of Geology and Paleontology in Nanjing on a regular basis. Almost all of the Chinese books containing 95 (of the total of 260) omitted names were still unavailable to ZR when checked at the end of 1997. Clearly, better access to this type of literature alone would improve ZR coverage markedly.

(iii) Omissions occasionally affect names published in periodicals, and non-periodical serials, which are normally scanned by ZR. In trying to locate the 89 publications containing names omitted from ZR (Table 2), it was found that 54 were present in the libraries used by ZR, and the names in them were therefore truly overlooked. Regrettably, errors occur in any human system and publishing a work in a serial normally scanned by ZR does not guarantee that a new name will be recorded, or that it will be recorded with its proper spelling and date. This defeats the principle of automatic registration advocated by Rosenberg (1995), and supports Crosskey's (1995) criticism of 'shifting onto the shoulders of the indexers/recorders for ZR the responsibility for whether new names shall ultimately live or die'.

Informal discussions with zoologists and paleontologists suggest that, to be acceptable, a recording or registration mechanism should have a rate of omission/error not higher than 5%, possibly as low as 1–3%. This is an ambitious goal but given a little extra help from taxonomists it would be achievable. The extent to which capture of new names by ZR can be improved by voluntary or mandatory ruling in the Code remains speculative. Considering the amount of omissions of names in Chinese and Russian literature, an avenue to be explored would be the formal involvement of bodies such as China's Academia Sinica or Russia's Akademia Nauk in the indexing process.

Evaluation before registration?

Registration, if any, would be the responsibility of the Commission. However, considering the available resources, the magnitude of the task is daunting: if all names regulated by the Code (i.e. from subspecies to superfamilies inclusive) are considered, ca. 20,000 new names are proposed each year. Clearly, considering that ZR already indexes 88% of the new genus-group names, it is obvious that the zoological community and Commission should build on ZR, rather than attempt to start a wholly new 'registration office'. Malicky (1996) proposed a new Recommendation whereby 'editors of journals and books should be responsible for notifying new names in accepted taxonomic manuscripts to the ZR staff, who would immediately allocate a reference number to each name. This number would be published with the name, thereby informing readers that the name had been recorded; if a name had no number every reader would know that it should be brought to the attention of ZR'. This proposal would lead to labour-intensive bureaucracy and contains several undesirable or unpractical aspects, not the least being that such a mechanism would register names *a priori* rather than *a posteriori* (as would be appropriate). But I believe it points the way to the future of scientific name registration.

Zoologists may perhaps soon be in a position to benefit from the experience of botanists. It has been proposed that, subject to ratification by the XVI International Botanical Congress (St Louis, 1999), new names of plants and fungi will have to be registered in order to be 'validly published' after 1 January 2000 (Borgen et al., 1998).

During the current test and trial phase (1998–1999), all new taxa, all new combinations or rank transfers are registered by the International Association for Plant Taxonomy (IAPT) Secretariat either (a) by being published in an accredited journal or serial, or (b) by being submitted for registration either directly or through a national registration office, or (c) (during the non-mandatory trial phase only) as a result of scanning of other published information by the registration centres' own staff. The test and trial phase also addresses issues such as registration date and acknowledgement to the submitting author that registration has been effected.

Neither the Commission nor ZR presently have the capacity to register yearly 20,000 names. However, the now general use of computers, communication via the Internet and possible funding through international organizations (e.g., UNESCO) and/or conventions (e.g., the Convention on Biological Diversity) should together make it possible to set up a workable registration mechanism for zoological names early in the 21st century.

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Case 3074

Eudendrium arbuscula Wright, 1859 (Cnidaria, Hydrozoa): proposed conservation of the specific name

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Abstract. The purpose of this application is to conserve the specific name of the well-known hydroid *Eudendrium arbuscula* Wright, 1859. It is threatened by the specific name of *Tubularia arbuscula* d'Orbigny, 1846 which was transferred to *Eudendrium* Ehrenberg, 1834 by Ridley (1881), thereby making *E. arbuscula* Wright a junior secondary homonym, and also by the replacement name *E. wrightii* Hartlaub, 1905. Neither *E. arbuscula* (d'Orbigny) nor *E. wrightii* have been used as valid names since 1905, whereas *E. arbuscula* Wright has been extensively used.

Keywords. Nomenclature; taxonomy; Hydrozoa; EUDENDRIIDAE; *Eudendrium arbuscula*.

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1. D'Orbigny (1846, p. 28) established the nominal species *Tubularia arbuscula* based on a poorly preserved hydrozoan colony without polyps from the Patagonian region (Argentina). As far as we can ascertain, the type material studied by d'Orbigny is lost.

2. Wright (1859, p. 113) described and figured one specimen (also believed lost) from the Firth of Forth, Scotland, naming it *Eudendrium arbuscula*; this name has sometimes been recorded as *arbusculum*, but we treat it as a noun in apposition. Wright's species is now known to be widespread in the North Sea, where it forms conspicuous colonies, and elsewhere.

3. D'Orbigny's taxon *Tubularia arbuscula* was transferred to the genus *Eudendrium* Ehrenberg, 1834 by Ridley (1881, p. 103), thereby rendering *Eudendrium arbuscula* Wright a junior secondary homonym of d'Orbigny's *arbuscula*. Hartlaub (1905) recorded *E. arbuscula* (d'Orbigny) from the Chilean coast, and (p. 547) proposed the name *Eudendrium wrightii* as a replacement name for *E. arbuscula* Wright. Under Article 59b of the Code (3rd Edition) a junior secondary homonym replaced before 1961 is permanently invalid unless the use of the replacement name 'is a cause of confusion' in which case the Commission should be asked 'for a ruling as to which name will . . . best serve stability and universality, and that name is then the valid name'. Bedot (1925, p. 181) and Kramp (1926, p. 243) objected to Hartlaub's (1905)

proposal of a replacement name because they considered that the species described by d'Orbigny (1846) was unidentifiable and therefore the replacement name unnecessary. Hartlaub's replacement name *E. wrightii* has never been used as a valid name since its proposal in 1905.

4. The name *Eudendrium arbuscula* (d'Orbigny) has also not been used as a valid name since Hartlaub (1905); d'Orbigny's taxon has not been recognized in any genus since 1905. As mentioned in para. 1 (above) the holotype is lost and we concur with Bedot (1925) and Kramp (1926) that it is unidentifiable. In contrast, *E. arbuscula* Wright has been recorded by that name many times both before and since Hartlaub's proposed replacement (e.g., Hamond, 1957; Calder, 1972; Bromley, 1979); 15 further references by 17 different authors in the last 50 years are held by the Commission Secretariat.

5. In order to conserve the specific name of *Eudendrium arbuscula* Wright, 1859, we propose the suppression of *E. arbuscula* (d'Orbigny, 1846) and the maintenance of validity of its junior homonym *E. arbuscula* Wright.

6. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers:
  (a) to suppress the name *arbuscula* d'Orbigny, 1846, as published in the binomen *Tubularia arbuscula*, for the purposes of the Principle of Priority but not for those of the Principle of Homonymy;
  (b) to rule that the specific name *arbuscula* Wright, 1859, as published in the binomen *Eudendrium arbuscula*, is not invalid by reason of having been replaced before 1961 as a junior secondary homonym of *Tubularia arbuscula* d'Orbigny, 1846;

(2) to place on the Official List of Specific Names in Zoology the name *arbuscula* Wright, 1859, as published in the binomen *Eudendrium arbuscula* (not invalid by the ruling in (1)(b) above);

(3) to place the following names on the Official Index of Rejected and Invalid Specific Names in Zoology:
  (a) *arbuscula* d'Orbigny, 1846, as published in the binomen *Tubularia arbuscula* and as suppressed in (1)(a) above;
  (b) *wrightii* Hartlaub, 1905, as published in the binomen *Eudendrium wrightii* (a junior objective synonym of *Eudendrium arbuscula* Wright, 1859).

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Case 3054

AUGOCHLORINI Moure, 1943 (Insecta, Hymenoptera): proposed precedence over OXYSTOGLOSSINI Schrottky, 1909

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Abstract. The purpose of this application is to conserve the usage of the family-group name AUGOCHLORINI Moure, 1943 for a well known group of neotropical halictine bees. The senior tribal name OXYSTOGLOSSINI Schrottky, 1909 (type genus *Oxystoglossa* Smith, 1853) has not been used for the last 50 years, and before that only rarely; the junior name AUGOCHLORINI (type genus *Augochlora* Smith, 1853, a senior subjective synonym of *Oxystoglossa*) has become widely known and universally accepted. It is proposed that the family-group name AUGOCHLORINI be given precedence over OXYSTOGLOSSINI.

Keywords. Nomenclature; taxonomy; Hymenoptera; HALICTIDAE; AUGOCHLORINI; OXYSTOGLOSSINI; bees; neotropics; *Augochlora*; *Oxystoglossa*.

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1. Smith (1853) established the generic names *Augochlora* (p. 73) and *Oxystoglossa* (p. 83) in a catalogue of hymenopterous insects in the collection of the British Museum. The type species of *Augochlora* is *Halictus purus* Say, 1837 (p. 395) by subsequent designation by Cockerell (1923, p. 448). The type species of *Oxystoglossa* is *Oxystoglossa decorata* Smith, 1853 (p. 83) by monotypy.

2. Ashmead (1899, p. 91), acting as first reviser, considered the two genera to be subjective synonyms and chose *Augochlora* as the valid generic name, thereby making *Oxystoglossa* the junior subjective synonym. Cockerell (1923, p. 446) recorded *Oxystoglossa* as a subgenus of *Augochlora* and designated *Halictus purus* Say, 1837 as the type species of *Augochlora*.

3. Schrottky (1909, p. 482) established a tribal name based on *Oxystoglossa*; this was misspelled as OXYTOGLOSSINI but under Article 32c(iii) of the Code is to be corrected to OXYSTOGLOSSINI. More than thirty years later Moure (1943, p. 461) established the name AUGOCHLORINI.

4. Eickwort (1969a), in a general revision of neotropical halictine bees and in an accompanying paper on the tribal classification of New World halictine bees (1969b, p. 652), was evidently unaware of the family-group name proposed in 1909 by Schrottky, and used the name AUGOCHLORINI for the group of bees related to *Augochlora*. It follows that OXYSTOGLOSSINI was not replaced in the sense of Article 40b. No author within the last 50 years has used the name OXYSTOGLOSSINI, and that family-group name was not recorded by Michener (1986) in his treatment of the family-group names among bees. Since Eickwort's classification (1969a, b), the family-group name based on *Augochlora* has been applied ubiquitously in reference to *Augochlora* and its relatives. All major treatments of the neotropical bee fauna in

the last 50 years have used the name AUGOCHLORINI to refer to the group of bees related to *Augochlora* (e.g., Michener, 1978; Moure & Hurd, 1987; Roubik, 1989; Michener, McGinley & Danforth, 1994; Griswold, Parker & Hanson, 1995). The genus *Augochlora* is a well known and wide ranging New World bee genus, and has been the focus of many biological studies (e.g., Stockhammer, 1966; Eickwort & Eickwort, 1972, 1973). Similarly, various papers treating the systematics, biology or ecology of related genera have all used the name AUGOCHLORINI (e.g., Michener, 1974; Eickwort & Sakagami, 1979; Schremmer, 1979; Packer, 1990; Radchenko & Pesenko, 1994; Engel, 1995a, b, 1996, 1997; Engel & Klein, 1997; Engel, Brooks & Yanega, 1997).

5. To use the name OXYSTOGLOSSINI in place of its junior synonym AUGOCHLORINI would bring about a change in name for a commonly encountered and well known group of bees. I therefore propose that family-group names based on *Augochlora* be given precedence over those based on *Oxystoglossa*. The family-group name based on *Oxystoglossa* would remain available for any entomologist who may in the future consider the two genera involved to belong to different family-group taxa.

6. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to rule that the family-group name AUGOCHLORINI Moure, 1943 and other family-group names based on *Augochlora* Smith, 1853 are to be given precedence over OXYSTOGLOSSINI Schrottky, 1909 and other family-group names based on *Oxystoglossa* Smith, 1853 whenever they are considered to be synonyms;

(2) to place on the Official List of Generic Names in Zoology the following names:

(a) *Augochlora* Smith, 1853 (gender: feminine), type species by subsequent designation by Cockerell (1923) *Halictus purus* Say, 1837;

(b) *Oxystoglossa* Smith, 1853 (gender: feminine), type species by monotypy *Oxystoglossa decorata* Smith 1853;

(3) to place on the Official List of Specific Names in Zoology the following names:

(a) *purus* Say, 1837, as published in the binomen *Halictus purus* (specific name of the type species of *Augochlora* Smith, 1853);

(b) *decorata* Smith, 1853, as published in the binomen *Oxystoglossa decorata* (specific name of the type species of *Oxystoglossa* Smith, 1853);

(4) to place on the Official List of Family-Group Names in Zoology the following names:

(a) AUGOCHLORINI Moure, 1943 (type genus *Augochlora* Smith, 1853), with the endorsement that it and other family-group names based on *Augochlora* are to be given precedence over OXYSTOGLOSSINI Schrottky, 1909 and other family-group names based on *Oxystoglossa* Smith, 1853 whenever they are considered to be synonyms;

(b) OXYSTOGLOSSINI Schrottky, 1909 (type genus *Oxystoglossa* Smith, 1853), with the endorsement that it and other family-group names based on *Oxystoglossa* are not to be given priority over AUGOCHLORINI Moure, 1943 and other family-group names based on *Augochlora* Smith, 1853 whenever they are considered to be synonyms.

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Case 3064

Strongylogaster Dahlbom, 1835 (Insecta, Hymenoptera): proposed conservation by the designation of *Tenthredo multifasciata* Geoffroy in Fourcroy, 1785 as the type species

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Abstract. The purpose of this application is to conserve the name *Strongylogaster* Dahlbom, 1835 for a Holarctic genus of sawflies (family TENTHREDINIDAE, subfamily SELANDRIINAE), the use of which has been stable and unambiguous for 140 years, by the designation of *Tenthredo multifasciata* Geoffroy in Fourcroy, 1785 as the type species. At present *T. cingulata* Fabricius, 1793 (a junior primary homonym of *T. cingulata* Scopoli, 1763) is the type species but recognition of the synonymy of this with *T. brevicornis* Konow, 1886 renders *Strongylogaster* a junior subjective synonym of *Tenthredo* Linnaeus, 1758 (subfamily TENTHREDININAE). A lectotype is designated for *T. cingulata* Fabricius, which had previously been considered a junior synonym of *T. lineata* Christ, 1791, itself a junior synonym of *T. multifasciata*.

Keywords. Nomenclature; taxonomy; Hymenoptera; TENTHREDINIDAE; sawflies; *Tenthredo*; *Strongylogaster*; *Tenthredo lineata*; *Tenthredo multifasciata*.

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1. The name *Strongylogaster* Dahlbom, 1835 (pp. 4, 13) has been used unambiguously as a valid generic name (family TENTHREDINIDAE, subfamily SELANDRIINAE) since Costa (1859). The taxon was described as a subgenus of *Tenthredo* and comprised the species *Tenthredo cingulata* Fabricius, 1793, *T. filicis* Klug, 1817 and *T. mixta* Klug, 1817. Dahlbom referred to the opinion of Klug (1817) on the position of these names and cited them under '*T. Allant.* Kl.', i.e. belonging to *Tenthredo* (*Allantus*) sensu Klug. The name *T. cingulata* Fabricius, 1793 is a junior primary homonym of *T. cingulata* Scopoli, 1763, the name of a sawfly species which is currently placed in *Allantus* Panzer, 1801.

2. MacGillivray (1908) placed *T. mixta* as a member of *Thrinax* Konow, 1885, and recorded that *T. filicis* was the type species of the genus *Polystichophagus* Ashmead, 1898 by monotypy and original designation. MacGillivray (1908, p. 369) noted: 'This leaves only *cingulata*, Fab., for *Strongylogaster*, which becomes type by elimination'. Although using the term 'by elimination', MacGillivray designated and accepted *T. cingulata* Fabricius as the type species of *Strongylogaster* and this is a valid type species designation under Article 69a(iv) of the Code; it has been accepted by

subsequent authors (see, for example, Rohwer, 1911, p. 90; Abe & Smith, 1991, pp. 81–82).

3. Klug (1817, pp. 215–216) referred to the original publication of *Tenthredo cingulata* Fabricius, 1793 (pp. 113–114). The name has been treated as a junior synonym of *T. lineata* Christ, 1791 (see, for example, Takeuchi, 1941, p. 243 and Zhelochovtsev, 1951, p. 149). A single female specimen preserved in the Museum für Naturkunde in Berlin, which was determined and labelled as '*cingulata* F.' by Klug, agrees well with the current view of the identity of *lineata*, which is now placed in *Strongylogaster*. The original description of *T. lineata* (p. 450) is generally accepted as representing a species of *Strongylogaster* (see, for example, Takeuchi, 1941; Zhelochovtsev, 1951; Naito, 1980, p. 400).

4. For a long time the specific name of *Tenthredo multifasciata* Geoffroy in Fourcroy, 1785 (p. 368), and not *T. lineata* Christ, 1791, was used as the valid name for the taxon in question (see, for example, Dalle Torre, 1894). It is not clear why Konow (1905) treated *T. multifasciata* as a junior synonym of *T. vespa* Retzius, 1783, as no evidence for the supposed synonymy was given. *Tenthredo multifasciata* and *T. lineata* were both based on Geoffroy's (1762) 'La mouche-à-scie à ventre rayé' and are objective synonyms. It seems very likely that Christ (1791) had no original material; it is clear from his publication that he intended to create an available name for Geoffroy's (1762) taxon. We have adopted *multifasciata* as the valid specific name for the species (see Blank, 1998). The type locality of *T. multifasciata* is Paris.

5. We have recently studied the type series of *Tenthredo cingulata* Fabricius, 1793 which consists of three syntypes preserved in the Zoologisk Museum, Copenhagen (see Zimsen, 1964, p. 358). We found that all the syntypes belong to the *Tenthredo arcuata*-group as defined by Taeger (1985, p. 91), which is included in *Tenthredo* Linnaeus, 1758 (p. 555; subfamily TENTHREDININAE). *Tenthredo cingulata* has now been recognized as a synonym of *Allantus brevicornis* Konow, 1886 (p. 18). One female syntype, which is hereby designated as the lectotype of *T. cingulata* Fabricius, is labelled as follows: (Fabricius's handwriting) '*cingulata*'; (red label) 'Lectotypus ♀ *Tenthredo cingulata* Fabr. 1793, des[ignated by] S.M. Blank 1999'; '*Tenthredo brevicornis* (Konow, 1886), ♀ det[ermined by] S.M. Blank'. The lectotype agrees perfectly with the characterization given by Taeger (1985, pp. 131–132) of *T. nitidior* (Konow, 1888), which is a junior subjective synonym of *T. brevicornis* (Konow, 1886), as noted by Taeger (1988, p. 104).

6. It follows that if *Tenthredo cingulata* Fabricius were recognised as the type species of *Strongylogaster*, this generic name would become a junior synonym of *Tenthredo* Linnaeus, 1758, and the group of species currently known as *Strongylogaster* would have to be renamed as *Thrinax* Konow, 1885, now regarded as a junior synonym of *Strongylogaster*. This would cause considerable confusion because *Strongylogaster* is the well-known name of a Holarctic genus which is currently used for a group of 40 valid species. The name *Strongylogaster* has been used in the following representative recent publications: Benson (1968, p. 134), Goulet (1992, p. 91), Sonoda, Yamada, Naito & Nakasuji (1995), Naito (1996), Blank (1998). A list of a further 26 additional references dating from 1952–1998 which demonstrate the usage of *Strongylogaster* is held by the Commission Secretariat. In the interest of stability of nomenclature and the maintenance of the established usage of the name

Strongylogaster Dahlbom, 1835, we propose that *Tenthredo multifasciata* Geoffroy in Fourcroy, 1785 be designated as the type species of the genus.

7. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to set aside all previous fixations of type species for the nominal genus *Strongylogaster* Dahlbom, 1835 and to designate *Tenthredo multifasciata* Geoffroy in Fourcroy, 1785 as the type species;

(2) to place on the Official List of Generic Names in Zoology the name *Strongylogaster* Dahlbom, 1835 (gender: feminine), type species by designation under the plenary powers in (1) above *Tenthredo multifasciata* Geoffroy in Fourcroy, 1785;

(3) to place on the Official List of Specific Names in Zoology the name *multifasciata* Geoffroy in Fourcroy, 1785, as published in the binomen *Tenthredo multifasciata* (specific name of the type species of *Strongylogaster* Dahlbom, 1835).

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Case 3069

Solenopsis invicta Buren, 1972 (Insecta, Hymenoptera): proposed conservation of the specific name

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Abstract. The purpose of this application is to conserve the specific name of the fire ant *Solenopsis invicta* Buren, 1972 (FORMICIDAE). This ant is a well-known pest in the southeastern United States and Puerto Rico. The name is threatened by the poorly understood and little used senior subjective synonym *S. wagneri* Santschi, 1916.

Keywords. Nomenclature; taxonomy; Hymenoptera; FORMICIDAE; fire ants; North and South America; *Solenopsis invicta*; *Solenopsis wagneri*.

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1. In a general paper on 'new and little known' South American ants, Santschi (1916, p. 380) described and named what he believed to be a new variety, *Wagneri*, of the species *Solenopsis saevissima* (F. Smith, 1855) from near Icaño, Santiago del Estero, Argentina; under Article 45g of the Code *wagneri* is treated as a subspecific name. Santschi included a brief description of the worker including its length, colour and the shape of the propodeum. A syntype worker is held in the Naturhistorisches Museum, Basel, Switzerland, and additional type workers 'probably exist' in the Muséum National d'Histoire Naturelle, Paris (Trager, 1991, p. 173). In a general paper on the ants of the Neotropics, Santschi (1923, p. 266) provided an additional short description of *S. saevissima wagneri*, as well as recording that he had examined material from Paraguay and Bolivia. Bruch listed *S. saevissima wagneri* as a host for a symbiotic beetle (1926, p. 18) and for a parasitic fly (1929, p. 436).

2. Creighton (1930, p. 76) reviewed the species of *Solenopsis* in the New World and changed the rank of *wagneri* to infrasubspecific as *S.* (*S.*) *saevissima electra* var. *wagneri*; he stated that he had seen no workers which could be certainly referred to this form. Wilson (1952, p. 64) examined the *Solenopsis saevissima* species-complex and placed *wagneri*, together with nine other species-group names, as junior synonyms of *S. saevissima saevissima*. This synonymy was accepted by Ettershank (1966) in his generic-level review of *Solenopsis* and by Kempf (1972) in his catalogue of the Neotropical region.

3. Buren (1972) examined the introduced pest species of *Solenopsis* which occurred in the southern United States, as well as their close relatives in South America. He

recognized that two distinct species were present in the southern United States, *S. richteri* Forel, 1909 and an undescribed species for which he proposed the name *S. invicta* (p. 9). Buren provided detailed descriptions and biological notes for *S. invicta* as well as other species related to it, including *S. saevissima*, from both North and South America. Unfortunately, Buren (1972) overlooked the available species-group names which Wilson (1952) and others had placed in synonymy (see para. 2 above). Thus only those names considered to be valid at the time of his study were considered by Buren (1972). Since its description, the literature citing *S. invicta* has grown to over 1,800 scientific publications (see Wojcik & Porter, 1997) covering a broad range of topics including: ecology (Vinson, 1994); genetics (Ross et al., 1987); chemical communication (Vander Meer, 1983); control methods (Collins, 1992, Williams, 1994); economic impacts (Lofgren, 1986); medical complications (Stafford, Hoffman & Rhoades, 1989); population biology (Tschinkel, 1993); and physiology (Vinson & Greenberg, 1986).

4. Trager (1991) examined the *S. geminata* species-group, which included *S. invicta*, *S. saevissima* and related species. After considering all available species-group names, he concluded that *S. wagneri* was conspecific with *S. invicta*, and not with *S. saevissima* as previously believed. However, he cited the original status of *wagneri* incorrectly as infrasubspecific (as *S. saevissima electra wagneri*; see para. 2 above) and believed it to be unavailable (p. 173). He continued the general usage of *S. invicta* as the valid name for the taxon.

5. Bolton (1995) corrected Trager's (1991) error by recognizing *S. wagneri* as an available name, and (pp. 388, 391) treated *S. invicta* as a junior subjective synonym of *S. wagneri*. Use of the little-known name *S. wagneri* constitutes a clear threat to nomenclatural stability for scientists from a wide range of disciplines and for non-scientists alike. While taxonomists might adapt to the usage of the name *S. wagneri*, such a change would considerably confuse and disrupt the non-taxonomic scientific literature concerning this species. We therefore propose that the use of *S. invicta* should be maintained because of its extensive use in the scientific literature (see para. 3 above), compared with the very limited use more than 60 years ago of *wagneri* in a South American context. Since Bolton (1995), well over 100 scientific papers have been published using the name *S. invicta* (Wojcik & Porter, unpublished bibliography). Up to 1998, three papers have used the name *S. wagneri* (Zakharov & Thompson, 1998; Semenov, Thompson, Jones & Semevsky, 1998; Semevsky, Thompson & Semenov, 1998). These three papers were published after the announcement in the *Bulletin* of our proposed conservation of the specific name of *S. invicta*, following which 'under Article 80 of the Code, existing usage is to be maintained until the ruling of the Commission is published'. This proposal to the Commission has the signed support of 76 colleagues who attended the 1998 Annual Fire Ant Research Conference in Hot Springs, Arkansas.

6. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to suppress the name *wagneri* Santschi, 1916, as published in the trinomen *Solenopsis saevissima wagneri*, for the purposes of the Principle of Priority but not for those of the Principle of Homonymy;

(2) to place on the Official List of Specific Names in Zoology the name *invicta* Buren, 1972, as published in the binomen *Solenopsis invicta*;

(3) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name *wagneri* Santschi, 1916, as published in the trinomen *Solenopsis saevissima wagneri* and as suppressed in (1) above.

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Case 3048

NYMPHULINAE Duponchel, [1845] (Insecta, Lepidoptera): proposed precedence over ACENTROPINAE Stephens, 1835

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Abstract. The purpose of this application is to conserve usage of the name NYMPHULINAE Duponchel, [1845] for a widely distributed subfamily of crambid moths; it is the only taxon in the Lepidoptera with true aquatic caterpillars. The name NYMPHULINAE is accepted by most workers as a subjective synonym of ACENTROPINAE Stephens, 1835. The senior name has been used as a valid name only a small number of times in recent years; it is proposed that NYMPHULINAE should be given precedence when the two names are regarded as synonyms.

Keywords. Nomenclature; taxonomy; Lepidoptera; CRAMBIDAE; ACENTROPINAE; NYMPHULINAE; *Acentropus*; *Nymphula*.

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1. Stephens (1835, p. 148) established the family-group name ACENTROPIDAE based on the nominal genus *Acentropus* Curtis, 1834 (folio 497), type species by original designation *Acentropus garnonsii* Curtis, 1834 (folio 497). *Acentropus* was originally placed in the Trichoptera, but Westwood ([1835], p. 117) transferred the genus to the Lepidoptera.

2. Duponchel ([1845], p. 201) established the family-group name NYMPHULITES as a subtribe based on the nominal genus *Nymphula* Schrank, 1802 (p. 162) to include the crambid moths with true aquatic caterpillars. Following an application to the Commission (Fletcher & Nye, 1982), *Phalaena stagnata* Donovan, 1806 was designated as the type species of *Nymphula* by use of the plenary powers (Opinion 1406, October 1986); both *Nymphula* and *Phalaena stagnata* were placed on Official Lists. Currently, the NYMPHULINAE has 93 genera (Fletcher & Nye, 1984), including *Acentropus*, and more than 700 species (Heppner, 1991) worldwide. It is the only taxon in the Lepidoptera with aquatic caterpillars, predominantly feeding on plants associated with water. A few species are known to damage rice and water lilies, and some have been found to be predators on the SIMULIIDAE (blackflies). Some species have been tested for the biological control of aquatic weeds.

3. Speidel (1981, 1984) treated NYMPHULINAE as a junior synonym of ACENTROPINAE when he revised the Palearctic ACENTROPINAE. The synonymy of NYMPHULINAE and ACENTROPINAE has been generally accepted (e.g., Inoue, 1982; Fletcher & Nye, 1984; Palm, 1986; Munroe, 1995; Shaffer, Nielsen & Horak, 1996), but these authors have all chosen to use NYMPHULINAE as the valid name. The Commission Secretariat has a list of 72 representative works in the last 20 years using the name NYMPHULINAE. Minet (1982, p. 269) suggested that the Commission should

be asked to 'suppress' the name ACENTROPIDAE, but (pers. comm., 1996) confirmed that he had not made such a proposal to the Commission.

4. Apart from Gomez Bustillo (1983), only Speidel and his co-author have used ACENTROPINAE as valid in recent years (Roesler & Speidel, 1981; Speidel, 1981, 1982, 1983, 1984, 1996).

5. Replacement of NYMPHULINAE Duponchel, [1845] by the senior synonym ACENTROPINAE Stephens, 1835, would result in the name change of a family-group taxon comprising 93 genera worldwide and cause confusion in the nomenclature of the PYRALOIDEA, particularly for the aquatic weed biological control community. A change would offer no compensating advantage. In view of this I propose that the junior name NYMPHULINAE should be given precedence over ACENTROPINAE whenever the two are considered to be synonyms.

6. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to rule that the family-group name NYMPHULINAE Duponchel, [1845] and other family-group names based on *Nymphula* Schrank, 1802 are to be given precedence over ACENTROPINAE Stephens, 1835 and other family-group names based on *Acentropus* Curtis, 1834 whenever they are considered to be synonyms;

(2) to place on the Official List of Generic Names in Zoology the name *Acentropus* Curtis, 1834 (gender: masculine), type species by original designation *Acentropus garnonsii* Curtis, 1834;

(3) to place on the Official List of Specific Names in Zoology the name *garnonsii* Curtis, 1834, as published in the binomen *Acentropus garnonsii* (specific name of the type species of *Acentropus* Curtis, 1834);

(4) to place on the Official List of Family-Group Names in Zoology the following names:

(a) NYMPHULINAE Duponchel, [1845] (type genus *Nymphula* Schrank, 1802), with the endorsement that it and other family-group names based on *Nymphula* are to be given precedence over ACENTROPINAE Stephens, 1835 and other family-group names based on *Acentropus* Curtis, 1834 whenever they are considered to be synonyms;

(b) ACENTROPINAE Stephens, 1835 (type genus *Acentropus* Curtis, 1834), with the endorsement that it and other family-group names based on *Acentropus* are not to be given priority over NYMPHULINAE Duponchel, [1845] and other family-group names based on *Nymphula* Schrank, 1802 whenever they are considered to be synonyms.

Acknowledgements

Niels P. Kristensen brought this problem to my attention and encouraged submission of this proposal to the Commission. Eugene Munroe provided valuable information and comments. R.W. Hodges suggested relevant citations. A. Konstantinov translated the Russian literature. This application is supported by Niels P. Kristensen and Eugene Munroe.

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Case 3061

Hemibagrus Bleeker, 1862 (Osteichthyes, Siluriformes): proposed stability of nomenclature by the designation of a single neotype for both *Bagrus nemurus* Valenciennes, 1840 and *B. sieboldii* Bleeker, 1846, and the designation of the lectotype of *B. planiceps* Valenciennes, 1840 as the neotype of *B. flavus* Bleeker, 1846

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Abstract. The purpose of this application is to stabilise the taxonomy of two species-groups within the catfish genus *Hemibagrus* Bleeker, 1862. The uncertain status of two supposed junior synonyms, *Bagrus flavus* Bleeker, 1846 and *B. sieboldii* Bleeker, 1846, is resolved by making them respectively objective junior synonyms of *B. planiceps* Valenciennes, 1840 and *B. nemurus* Valenciennes, 1840.

Keywords. Nomenclature; taxonomy; Osteichthyes; Siluriformes; catfish; BAGRIDAE; *Hemibagrus*; *Hemibagrus flavus*; *Hemibagrus nemurus*; *Hemibagrus planiceps*; *Hemibagrus sieboldii*.

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1. The nominal genus *Hemibagrus* was established by Bleeker (1862, p. 9) with *Bagrus nemurus* Valenciennes in Cuvier & Valenciennes, 1840 (p. 423) as the type species by original designation. Bagrid catfishes of *Hemibagrus* are economically important in South, East and Southeast Asia. Their taxonomy is confusing and a number of nominal species exist for which types, even if they exist, cannot be identified with certainty. We and our colleagues have been investigating the biology of members of *Hemibagrus* in recent years, with various ongoing studies focusing on their systematics, zoogeography and phylogeny, using both morphological and genetic characters (Kottelat & Lim, 1995; Ng & Ng, 1995; Dodson, Colombani & Ng, 1995). Many of the larger species are also being investigated for use in aquaculture. Our studies are complicated by the probable synonymy of two pairs of nominal taxa:

Bagrus flavus Bleeker, 1846 as the junior synonym of *B. planiceps* Valenciennes in Cuvier & Valenciennes, 1840;

Bagrus sieboldii Bleeker, 1846 as the junior synonym of *B. nemurus* Valenciennes in Cuvier & Valenciennes, 1840.

Each pair of synonyms is considered in turn and a course of action proposed to resolve the problem.

Bagrus planiceps* / *Bagrus flavus

2. *Bagrus planiceps* Valenciennes in Cuvier & Valenciennes, 1840 (p. 421), *B. anisurus* Valenciennes in Cuvier & Valenciennes, 1840 (p. 423) and *B. flavus* Bleeker, 1846 (p. 156) are three of the nominal species in the *H. planiceps* species-group as defined by Ng & Ng (1995). *Bagrus planiceps* was described from two specimens measuring 4 and 8 French inches (= 108 and 216 mm respectively) in total length, collected by Heinrich Kuhl and Johan Coenraad van Hasselt from Java. *Bagrus anisurus* was described from a single specimen, also collected by Kuhl and van Hasselt from Java, measuring 14 French inches (= 379 mm) in total length. *Bagrus flavus* was described from an unspecified number of specimens of unstated size from somewhere in Java. *Bagrus planiceps* had been placed in the genus *Mystus* Scopoli, 1777 by some workers, but is currently classified in the genus *Hemibagrus* (see Mo, 1991).

3. Bleeker (1858, pp. 154–155), acting as first reviser, synonymised *B. anisurus* and *B. flavus* under *B. planiceps*; the two junior nominal taxa have not been accepted as valid species since then. Roberts (1993), who reviewed the ichthyological contributions of Kuhl and van Hasselt, followed this synonymy and stated that their specimens were currently deposited in the Muséum National d'Histoire Naturelle (MNHN) in Paris and the Nationaal Natuurhistorisch Museum (NNM) in Leiden. He reported that he had examined the 'holotype' of *B. planiceps* in the MNHN as well as the holotype of *B. anisurus* in the NNM (Roberts, 1993, p. 30).

4. In the NNM, there are seven specimens collected by Kuhl and van Hasselt from Java (NNM 2939, 2941, 2956–2959, 2962) which are labelled as *B. planiceps*; all are kept in separate bottles. Of these, one specimen (NNM 2956) has a label which states 'Holotype (?) *Bagrus anisurus*'. There is also one Kuhl and van Hasselt specimen in the MNHN from Java labelled as *B. planiceps* (MNHN B.615). As far as is known, these are the only known specimens of *B. planiceps* or *B. anisurus* collected by Kuhl and van Hasselt. Roberts (1993, p. 30) had identified a specimen 102 mm standard length and 121 mm total length (MNHN B.615) as the holotype of *B. planiceps*, but this is incorrect; as noted in para. 2 (above), *B. planiceps* was described from two specimens measuring 108 and 216 mm in total length. The two specimens of *B. planiceps* reported by Valenciennes are thus syntypes. Roberts noted that one of the specimens of *B. planiceps* used by Valenciennes in his description had been drawn but the figure had never been published. Roberts (fig. 65) published this illustration, noting that the figure of the specimen measured 136 mm in total length and that this was three-fifths of the natural size. The specimen illustrated would measure about 227 mm total length in life. This would thus agree fairly closely with the measurement provided by Valenciennes for the larger specimen of *B. planiceps* (216 mm, total length). We have examined the MNHN specimen which Roberts incorrectly regarded as the holotype of *B. planiceps*, which measures 121 mm in total length. As such, it does not match either of the two specimens used by Valenciennes for his description of *B. planiceps* and cannot be regarded as a syntype of the species. Of the seven Kuhl and van Hasselt specimens of *B. planiceps* in the NNM, the second largest specimen (NNM 2939; 212 mm total length, 179 mm standard length) agrees very well with the length of the larger of the two syntypes of *B. planiceps* (216 mm total length) and we are confident that it is that specimen. The largest NNM specimen of *B. planiceps* is the one which also carries a label noting that it might be the type of *B. anisurus*. This

specimen (NNM 2956) measures 377 mm in total length (283 mm standard length), and compares very well with the only specimen (total length 379 mm) mentioned by Valeciennes (in Cuvier & Valenciennes, 1840, p. 423) in his description of *B. anisurus*. Although we do not know who placed the query on the label, because the length of NNM 2956 agrees so well with the size given by Valenciennes we are confident that it is the holotype of *B. anisurus*. The other five specimens of *B. planiceps* are all much smaller and none comes close to the sizes mentioned by Valenciennes for *B. planiceps* or *B. anisurus*.

5. The problem associated with the types of *Bagrus flavus* is altogether more complex. Bleeker (1846) described *B. flavus* while stationed in Batavia (now Jakarta), but he was shortly afterwards transferred to Samarang. During this transfer, Bleeker (1878, p. 21) stated that 'it was out of the question to move my collections to my new station, so I had to leave them behind in Batavia'. Boeseman (1973, p. 59) noted that 'when Bleeker returned from the East Indies [in 1860], he still had in his possession all the original specimens, excepting a few that had already been lost in the East Indies during the period of his banishment from Batavia'.

6. There is a series of Bleeker specimens in the NNM labelled as *B. planiceps*, which may or may not include the type material of *B. flavus*. The problems with Bleeker's material are well known. Bleeker often placed specimens of what he considered one species (including types) together in the same bottle without any data or explanation, even if they were from different localities. In 1862, Bleeker (p. 56) noted that he had 21 specimens of *B. planiceps* ranging from 130–335 mm in total length from eight localities in Java and Sumatra. As he had synonymised *B. anisurus* and *B. flavus* with *B. planiceps*, all his specimens in the NNM would have been labelled as *B. planiceps*, and if he had any type material of *B. flavus*, he would almost certainly have mixed them with the non-types as well. To sort out Bleeker's specimens of *B. flavus* is made more difficult by the fact that he did not state the number or size of his specimens when describing *B. flavus* from Java (Bleeker, 1846, p. 156). We examined 23 Bleeker specimens in the NNM labelled as *B. planiceps* (NNM 6865, 22 specimens, 59–234 mm standard length; NNM 12039, one specimen, 129.4 mm standard length), all without any data. As Bleeker in 1862 had only 21 specimens, at least two of the present series must have been collected after that date. Bleeker had also distributed some of his specimens to the Natural History Museum (NHM) in London, and Günther (1864, p. 81) lists in his catalogue one specimen of *Bagrus planiceps* 'from Dr. P. v. Bleeker's Collection'. As the material was sent to the NHM after the publication in 1862 of vol. 2 of Bleeker's atlas (see Hubrecht, 1879), the above remarks apply to this specimen as well, and there is no way of knowing if it is actually a type. The same applies to any of Bleeker's specimens in other museums to which they were distributed after his death (see Boeseman, 1973, p. 60).

7. According to Fricke (1991, p. 8), one syntype of *B. flavus* is deposited in the Staatliches Museum für Naturkunde (SMNS) in Stuttgart (SMNS 10570, 99.8 mm standard length), but we are unable to ascertain if it is a type. This is unlikely to be the case, as Bleeker donated the specimen to SMNS in 1860, and it was probably obtained after his transfer to Samarang and formed part of the mixed series currently in NNM and NHM. The generally poor degree of preservation of the NNM and NHM specimens (twisted bodies, considerable degree of shrinkage and faded coloration) makes their identification difficult. However, eight NNM specimens were

radiographed, and two groups of vertebral counts were discerned. One group had 47–49 vertebrae, whereas the second had 50–52 vertebrae. Of the seven Kuhl and van Hasselt specimens of *B. planiceps* and *B. anisurus* radiographed, all have 47–49 vertebrae. We radiographed five fresh specimens of *B. planiceps* recently collected from Java, all of which have 47–49 vertebrae. We have also radiographed 15 specimens of what had been identified as *B. planiceps* from various parts of Sumatra (fresh, as well as post-Bleeker material with definite locality data). All have 50–52 vertebrae. We believe these Sumatran specimens represent an undescribed species in the *B. planiceps* species-group.

8. Whether any of the NNM specimens are the types of *B. flavus* can never be established for certain. This uncertainty, compounded by the poor condition of the specimens and the fact that Bleeker had specimens of *B. flavus* and *B. planiceps* from Java and Sumatra mixed together, makes it impracticable to select a lectotype from this series.

9. Recent collections from west Java have provided fresh specimens of an elongate *Hemibagrus* with 47–49 vertebrae, rounded caudal fin lobes with the principal ray on the upper lobe produced into a long filament, and yellowish live coloration, which are all clearly referable to *H. planiceps*. Their yellowish coloration in life also supports the contention that *B. flavus* is a synonym of *H. planiceps*. No other members of the *Hemibagrus planiceps* species-group have been collected from Java. The only other *Hemibagrus* species we have obtained from Java is *H. nemurus*, which is easily distinguished by its shorter body with 43–45 vertebrae and generally more greyish live coloration. Although Bleeker regarded *B. planiceps*, *B. anisurus* and *B. flavus* as synonyms, the absence of a type for *B. flavus* poses problems in studying the other species from Southeast Asia. Ng & Ng (1995) have shown that the *Hemibagrus planiceps* species-group is more speciose than previously believed, with new or poorly-known taxa present in other parts of Southeast Asia. It is possible that one of these taxa, particularly specimens with a yellowish live color, may be attributed to *B. flavus*. Java is already heavily developed and some species originally described from there can no longer be found on the island (Whitten, Soeriaatmadja & Afiff, 1996, pp. 718–720). We cannot discount the possibility that more than one species of *Hemibagrus* belonging to the *H. planiceps* species-group may have existed on Java during Bleeker's time. The absence of a type for *B. flavus* seriously complicates our revision of this species-group, as there is a need to establish positively the identity of *B. flavus* Bleeker, 1846, and its supposed synonymy with *B. planiceps*. Therefore, in the interest of clarifying the identity and maintaining the synonymy of *B. flavus* with *B. planiceps*, the designation of a neotype for *B. flavus* is necessary. Similar problems with the types of *Hemibagrus hoevenii* (Bleeker, 1846) have been discussed by Kottelat, Lim & Ng (1994) and a neotype for this species was designated by the Commission (Opinion 1840, June 1996).

10. Since the type series of *B. flavus* can never be recognized with certainty, and therefore the nominal species cannot be identified, we propose that the synonymy with *B. planiceps* be made objective by designating a lectotype of *B. planiceps* as the neotype of *B. flavus*. We recognize that an alternative proposal could have been to ask the Commission to suppress the nominal species *B. flavus* for the purposes of the Principle of Priority but not for those of the Principle of Homonymy; however, we consider that the action we propose is more in keeping with the situation. We hereby

designate as the lectotype of *B. planiceps* specimen no. NNM 2939 in the Nationaal Natuurhistorisch Museum, Leiden, referred to in para. 4 (above), and propose that this specimen should also be designated as the neotype of *B. flavus* (see para. 19(1)(a) below).

Bagrus nemurus* / *Bagrus sieboldii

11. *Bagrus nemurus* Valenciennes in Cuvier & Valenciennes, 1840 (p. 423) and *Bagrus sieboldii* Bleeker, 1846 (p. 155) are two of the nominal species in the *H. nemurus* species-group (Ng & Ng, 1995). Valenciennes described *B. nemurus* solely from a specimen measuring 15 French inches (=406 mm) in total length collected by Kuhl and van Hasselt from Java. Roberts (1993, p. 30) noted that one of the specimens of *B. nemurus* examined by Valenciennes had an unpublished figure prepared for the original description. He published this illustration (fig. 63) and noted that the figure of the specimen measured 144 mm in total length. He indicated that this was one-third of the natural size, making the actual specimen illustrated about 432 mm in total length. This is too long compared to the measurement provided by Valenciennes (406 mm total length) and thus cannot be a holotype (see also para. 12 below). *Bagrus nemurus* has been placed in the genus *Mystus* by some workers, but is currently classified in the genus *Hemibagrus* (see Mo, 1991), for which it is the type species (see para. 1 above). Bleeker described *Bagrus sieboldii* from an unspecified number of specimens of unstated size from somewhere in Java (see also paras. 2 and 5 above).

12. The Javanese material collected by Kuhl and van Hasselt is deposited both in the Nationaal Natuurhistorisch Museum in Leiden (NNM) and the Muséum National d'Histoire Naturelle in Paris (MNHN). Roberts (1993, p. 28) remarked that the holotype of *B. nemurus* 'should be in Leiden'. There is no specimen referable to *B. nemurus* collected by Kuhl and van Hasselt from Java deposited in the MNHN, nor is there any evidence that such specimens have ever been deposited there. In the NNM, the only specimen referable to *B. nemurus* collected by Kuhl and van Hasselt is a skeleton (catalogue no. NNM 269) of only 175 mm standard length. This specimen, bearing the unpublished name '*Bagrus tetragonocephalus* van Hasselt' is in poor condition with the vertebral column showing evidence of being repaired (Roberts, 1993; pers. obs.).

13. Ongoing studies by ourselves and our colleagues have shown that what is now known as *H. nemurus* actually consists of a complex of several species which are morphologically very similar (Ng & Ng, 1995). Many characters at present used to differentiate the species within the group are non-osteological and it is not possible to differentiate taxa on the basis of skeletal morphology alone. In the absence of a holotype, one possible action would be to designate as the neotype the skeleton of the specimen collected by Kuhl and van Hasselt from Java. This, however, is not advisable since it is impossible to discern key characters such as body form, morphology of the soft parts and color from the skeleton.

14. Bleeker (1858, p. 151) synonymised his own species, *B. sieboldii*, under *B. nemurus* Valenciennes; the junior synonym has not been accepted as valid since then. Bleeker (1862, p. 55) subsequently noted that he had 32 specimens of *B. nemurus* ranging from 105–340 mm in total length from 18 localities in Java, Sumatra, Banka and Borneo. As he had synonymised *B. sieboldii* with *B. nemurus*, all Bleeker's

specimens in the NNM would have been labelled as *B. nemurus*, and if he had any type material of *B. sieboldii* he would have mixed it with the non-types. To sort out Bleeker's specimens of *B. sieboldii* is made even more difficult by the fact that Bleeker did not state the number or size of his specimens when describing *B. sieboldii* from Java.

15. There is a series of Bleeker's specimens in the NNM labelled as *B. nemurus*, which may or may not include the types of *B. sieboldii*. We examined 19 specimens (NNM 6863, 48.5–256 mm standard length) all without any data. As the smallest specimen reported by Bleeker (1862, p. 55) is 105 mm total length and the smallest we have seen is 57.0 mm total length (48.5 mm standard length), some of the present series must have been collected after 1862. These specimens seem to belong to more than one species, but the twisted bodies, considerable degree of shrinkage, faded coloration and generally poor degree of preservation make identification difficult. According to Fricke (1991, p. 8), one syntype of *B. sieboldii* is deposited in the Staatliches Museum für Naturkunde in Stuttgart (SMNS 10572, 123.8 mm standard length). As with *B. flavus* (para. 7 above), this is unlikely to be the case. It is not possible to establish for certain whether any of the NNM or SMNS specimens are the types of *B. sieboldii*. Thus, it is impractical to select a lectotype from this series due to this uncertainty, compounded by the poor condition of the specimens and the fact that Bleeker had specimens of *B. nemurus* and *B. sieboldii* from Java, Sumatra, Banka and Borneo. It is just as likely that the original type material of *B. sieboldii* is lost. Günther's (1864, p. 81) catalogue lists specimens of *Bagrus nemurus* in the NHM 'from Dr. P. v. Bleeker's Collection'. The material was sent to the NHM after the publication in 1862 of vol. 2 of Bleeker's atlas (Hubrecht, 1879); there is no way of knowing if it or Bleeker's specimens in other museums are actually type specimens.

16. We have examined a *Hemibagrus* with 43–45 vertebrae, a thin dark midaxial streak, and a faint humeral spot during recent collections in Java; these specimens are referable to *H. nemurus*. The only other species we have encountered on Java is *H. planiceps*, which is easily distinguished by its longer body with 47–49 vertebrae and generally more yellowish live coloration.

17. Although Bleeker (1858, p. 151) synonymised *B. sieboldii* with *B. nemurus*, the absence of a type for *B. sieboldii* poses problems in studying the other species from Southeast Asia. Ng & Ng (1995) showed that the *Hemibagrus nemurus* species-group is more speciose than previously believed, with new or poorly-known taxa present in other parts of Southeast Asia. A remote possibility exists that one such taxon may be conspecific with *B. sieboldii*. As pointed out in para. 9 (above) some species originally described from Java are no longer found there as the island has been heavily developed. We cannot exclude the possibility of more than one species of *Hemibagrus* belonging to the *H. nemurus* species-group having existed in Java in the last century. Our revision of this species-group is seriously complicated by the absence of types for *B. nemurus* and *B. sieboldii*, and there is a need to establish positively the identity of *B. nemurus* Valenciennes and *B. sieboldii* Bleeker. The necessity to fix the identity of *B. nemurus* is also made more important by the fact that it is the type species of the genus *Hemibagrus* Bleeker. Therefore, the designation of a neotype is necessary in the interests of clarifying the identity and maintaining the synonymy of *B. sieboldii* and *B. nemurus*.

18. Since the type series of *B. sieboldii* can never be recognized with certainty, and thus the nominal species cannot be identified, we propose that the synonymy with *B. nemurus* be made objective by the designation as the neotype of both nominal species of specimen no. ZRC 41504 in the Zoological Reference Collection, National University of Singapore, collected from Sungai Sokan at Cibalagung, a probable outlet of the Cirata Reservoir at Citarum by Y.Y. Goh and D. Wowor on 21 June 1997. This specimen is in accord with the accepted meaning of the name *Hemibagrus nemurus* and, unlike the Kuhl and van Hasselt material, is in good condition.

19. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to set aside all previous fixations of type specimens for the following nominal species and to designate as the respective neotypes the specimens indicated:
   (a) *Bagrus flavus* Bleeker, 1846: specimen no. NNM 2939 in the Nationaal Natuurhistorisch Museum, Leiden (the lectotype of *Bagrus planiceps* Valenciennes in Cuvier & Valenciennes, 1840);
   (b) *Bagrus nemurus* Valenciennes in Cuvier & Valenciennes, 1840: specimen no. ZRC 41504 in the Zoological Reference Collection, National University of Singapore;
   (c) *Bagrus sieboldii* Bleeker, 1846: specimen no. ZRC 41504 in the Zoological Reference Collection, National University of Singapore;

(2) to place on the Official List of Generic Names in Zoology the name *Hemibagrus* Bleeker, 1862 (gender: masculine), type species by original designation *Bagrus nemurus* Valenciennes in Cuvier & Valenciennes, 1840;

(3) to place on the Official List of Specific Names in Zoology the following names:
   (a) *planiceps* Valenciennes in Cuvier & Valenciennes, 1840, as published in the binomen *Bagrus planiceps* and as defined by the lectotype designated in para. 10 (above) by Ng, Goh, Ng & Dodson (1999);
   (b) *nemurus* Valenciennes in Cuvier & Valenciennes, 1840, as published in the binomen *Bagrus nemurus* and as defined by the neotype designated in (1)(b) above (specific name of the type species of *Hemibagrus* Bleeker, 1862);

(4) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the following names:
   (a) *flavus* Bleeker, 1846, as published in the binomen *Bagrus flavus* (a junior objective synonym of *B. planiceps* Valenciennes in Cuvier & Valenciennes, 1840);
   (b) *sieboldii* Bleeker, 1846 as published in the binomen *Bagrus sieboldii* (a junior objective synonym of *B. nemurus* Valenciennes in Cuvier & Valenciennes, 1840).

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Case 3020

Megalotragus Van Hoepen, 1932 (Mammalia, Artiodactyla): proposed conservation, and *Alcelaphus kattwinkeli* Schwarz, 1932 (currently *Megalotragus kattwinkeli*): proposed conservation of the specific name

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Abstract. The purpose of this application is to conserve the generic name *Megalotragus* Van Hoepen, 1932, and the specific name of *Megalotragus kattwinkeli* (Schwarz, 1932). The generic name has been used consistently for a genus of very large African fossil antelopes (family BOVIDAE), dating from the Pliocene late Pleistocene. The specific name of *M. kattwinkeli* refers to an East African species of the genus. The names are threatened by *Rhynotragus* and *R. semiticus*, both of Reck (1925), which until 1995 were believed to date from 1935 and, with the exception of a single use in 1997, have remained unused.

Keywords. Nomenclature; taxonomy; Mammalia; Artiodactyla; BOVIDAE; ALCELAPHINI; antelopes; Pliocene; Pleistocene; Africa; *Megalotragus*; *Megalotragus priscus*; *Megalotragus kattwinkeli*.

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1. Until recently (see Gentry, Gentry & Mayr, 1995) the generic and specific names of *Rhynotragus semiticus* were thought to date from Reck (1935), when they were used for a new large Plio-Pleistocene antelope (family BOVIDAE) collected in 1913 from Olduvai Gorge, Tanzania by an expedition led by Dr Hans Reck of the Institut für Geologie und Paläontologie der Friedrich-Wilhelm Universität, Berlin (see Reck, 1914). Reck's paper of 1935 was written to provide diagnoses for his previously published references to this and another bovid. *Rhynotragus semiticus* had earlier been mentioned and illustrated in Reck (1933). However, the new antelope had already been established by Reck in a weekly general journal of news, fashion, arts and science published in Leipzig, the *Illustrirte Zeitung*, of 19 March 1925. The account contained a good quality line drawing of the only specimen, with the new generic and specific name in the caption. The accompanying text drew attention to the most distinctive feature of the illustrated specimen: 'Den einen characterisiert auf den ersten Blick das enorm hochgewölbte Gesichtsprofil ...'. Both the generic and specific names *Rhynotragus semiticus* are therefore available from Reck (1925, p. 451, fig.). Reck (1925, 1933, 1935) was unable to classify *R. semiticus* below family level. Schwarz (1937) regarded it as a distorted specimen of the living blue wildebeest, *Connochaetes taurinus* (Burchell, [1823]), a member of the tribe ALCELAPHINI.

2. The genus *Megalotragus* and species *M. eucornutus*, both of van Hoepen (1932, p. 63, fig. 1), were established for the horn cores of a large antelope (tribe ALCELAPHINI) from the Pleistocene at Cornelia, South Africa, specimen no. C667 in the National Museum, Bloemfontein (see Cooke, 1974, p. 76); *M. eucornutus* was later synonymised with *Bubalis priscus* Broom, 1909, a species founded on specimen SAM 1741 in the South African Museum, Cape Town, from the Modder River between Kimberley and Bloemfontein, and subsequently known by frontlets and horn cores from several South African sites (see Gentry & Gentry, 1978, p. 361).

3. Schwarz (1932, p. 4) named *Alcelaphus kattwinkeli* for fossil antelope material collected at Olduvai Gorge during the 1913 expedition (para. 1 above), and designated as holotype a right horn core with the adjacent part of the frontal bone, VI-1099 from an unknown stratigraphic horizon. It was housed in the Bayerischen Staatssammlung für Paläontologie und historische Geologie in Munich. Later Schwarz (1937) gave an expanded description of the species. His only illustration (Schwarz, 1937, pl. 1, fig. 3) showed a frontal region with horn bases, which the caption alleged to be specimen no. VII-468. However, in Schwarz's own list (1937, p. 56) of specimens, VII-468 was the number given to a lower jaw. Further, the skull part shown in pl. 1, fig. 3 did not fit the description of the holotype as a right horn core with frontal.

4. Wells (1959, p. 127; 1964, p. 91) was the first to suggest that the South African genus *Megalotragus* van Hoepen, 1932 might belong to the tribe ALCELAPHINI. Gentry & Gentry (1978, p. 356) placed *Alcelaphus kattwinkeli* Schwarz, 1932 in *Megalotragus*. Harris (1991) was able to establish that *Megalotragus* was congeneric with *Rhynotragus* Reck, 1925, and Gentry, Gentry & Mayr (1995, pp. 131 -133, figs. 2, 3) that *R. semiticus* and *M. kattwinkeli* were conspecific. It follows that with recognition of the availability of *Rhynotragus* and *R. semiticus* from 1925 (para. 1 above), these names formally become the senior generic and specific synonyms for *Megalotragus* and *M. kattwinkeli*.

5. In addition to Olduvai Gorge, specimens of *Megalotragus kattwinkeli* have been found in material from the East African sites of Laetoli ('young Pleistocene' level), Peninj, Chesowanja, the Shungura Formation at Omo (see Gentry & Gentry, 1978, p. 361), and lately Vrba (1997) has recorded the species from the Middle Pleistocene at Awash. Harris (1991, p. 187, figs. 5.46–5.48) described a further species from Koobi Fora, *M. isaaci*, since synonymised with *M. kattwinkeli* by Vrba (1997, p. 148). The names *Megalotragus* and *M. kattwinkeli* have been widely used in the literature of South, East and North Africa (see, for example, Wells, 1959, 1964; Klein, 1972, 1994; Cooke, 1974; Vrba, 1977, 1979, 1984, 1985, 1995, 1997; Thackeray, 1980; Gentry, 1985; Brink, 1987; Geraads, 1987; Bonis, Geraads, Jaeger & Sen, 1988; Klein & Cruz-Uribe, 1991; Harris, 1991; Brain & Watson, 1992; Peters, Gautier, Brink & Haenen, 1994; McKee, 1995; Brink, de Bruiyn, Rademeyer & van der Westhuizen, 1995). It is undesirable to upset this currently stable position solely because of a hitherto overlooked report in a weekly journal of nearly 75 years ago and we propose that the names *Megalotragus* and *M. kattwinkeli* should be conserved. Until 1997 *Rhynotragus* and *R. semiticus* had not been used as valid names. On confirming the suspected synonymy between *M. kattwinkeli* and *R. semiticus* and recording the 1925 publication of Reck's names, we (Gentry, Gentry & Mayr, 1995, p. 133) stated that 'the International Commission on Zoological Nomenclature is being petitioned by A.W. and A. Gentry to conserve the usage of the familiar names *Megalotragus* and

M. kattwinkeli'. Receipt of our application was announced in BZN **53**: 145 (September 1996) and it was then noted that 'under Article 80 of the Code, existing usage is to be maintained until the ruling of the Commission is published'. Vrba (1997, p. 148) cited our (1995) publication and maintained the usage of *Megalotragus* and *M. kattwinkeli*. McKenna & Bell (1997, p. 449), however, adopted *Rhynotragus* as the senior name and included *Megalotragus* in synonymy. This adoption of *Rhynotragus* was contrary to Article 80 and under Article 79c there is a prima facie case for the conservation of both *Megalotragus* and *M. kattwinkeli*.

6. On study visits to the Bayerischen Staatssammlung für Paläontologie und historische Geologie in Munich in 1967 and 1969, we were assured that all Olduvai material formerly in the collections, aside from the holotype of the bovid *Thaleroceros radiciformis* Reck, 1925 and a few primates, had been destroyed by bombing in the Second World War during the night of 24–25 April 1944. By 1969 the surviving Olduvai material had all been unpacked and restored to the collections. Consequently, in our study (Gentry & Gentry, 1978) of the fossil Bovidae of Olduvai Gorge, we surmised (p. 356) that the figured specimen of *Megalotragus kattwinkeli* (Schwarz, 1932) could be VI-487, another listed skull part. Since the holotype had been destroyed and never figured, we designated a neotype. This was a damaged skull in the collections in the Natural History Museum, London, catalogue no. BMNH M21447, previously used as the holotype of *Xenocephalus robustus* Leakey, 1965 (p. 62, pls. 81 82), the generic and specific names of which we (Gentry & Gentry, 1978, p. 356) regarded as junior synonyms of *Megalotragus* and *M. kattwinkeli*. The generic name *Xenocephalus* is, in any case, preoccupied by the name for a fish (Kaup, 1858) and for a beetle (Wasmann, 1887), the beetle having been renamed *Wasmannotherium* by Bernhauer (1921).

7. On a further visit to Munich in 1992, one of us (A.W.G.) noticed that a cupboard in the storeroom for fossil mammals was labelled as containing the Reck collection. This was found to contain a great many bovid fossils of the 1913 Olduvai expedition, and among them the lost holotype of *Megalotragus kattwinkeli*. Dr Helmut Mayr, curator of fossil mammals in the Bayerischen Staatssammlung in Munich, informed us in 1994 that he had discovered the boxes containing the missing material in the basement of an outstation of the Universitäts-Institut near Munich in 1989. The most likely explanation for their survival is that shortly before the Second World War the material had been returned to Munich from being on loan to E. Schwarz. Schwarz had worked in London from 1933–1937, preparing his monograph of 1937 (see Hill, 1962), and had taken Olduvai material from Germany with him (see Gentry, Gentry & Mayr, 1995, for more details). For whatever reason, the material refound in 1989 had not been reincorporated into the collections during the War and hence had escaped destruction.

8. The label on the holotype horn core of *Megalotragus kattwinkeli* reads 'Or. No. VI-1099 + Typus *Alcelaphus kattwinkeli* Schwarz Oldoway O. Afrika Reck Smmlng. 1913'. The words 'Zoolog. Museum Berlin' printed on this label have been crossed out in pencil. It is indeed a right horn core, as indicated by Schwarz (1932), and also preserves part of the frontal with supraorbital pit and top of the orbit. Two other frontlets of *M. kattwinkeli* are included in this collection, numbered VI-487 and VI-1088, and neither is the specimen figured by Schwarz (1937, pl. 1, fig. 3) as VII-468 (see above). We can now only suppose that the illustration must be of the

fourth, unnumbered, 'Frontale mit Hornwurzel' of Schwarz's list. The holotype of *M. kattwinkeli*, specimen no. VI-1099, was described and photographed in our (1995) publication (Gentry, Gentry & Mayr, p. 132, fig. 2).

9. Under Article 75.8 of the proposed 4th Edition of the Code, due to come into effect on 1 January 2000, a rediscovered missing holotype is to resume the status of the name-bearing specimen. In our view the refound holotype of *Megalotragus kattwinkeli* is conspecific with the (1978) neotype skull. The London neotype is a more complete specimen of known stratigraphic provenance, but the Munich holotype is sufficient for species-level identification. It has a very considerable historical interest and it is fitting that its name-bearing status should be restored. Moreover, if at a future date our assertion of the conspecificity of neotype and holotype were challenged, and if the holotype were again the name bearer, then *kattwinkeli* would continue to be the name of the species which Schwarz had founded.

10. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to suppress the following names for the purposes of the Principle of Priority but not for those of the Principle of Homonymy:
   (a) the generic name *Rhynotragus* Reck, 1925;
   (b) the specific name *semiticus* Reck, 1925, as published in the binomen *Rhynotragus semiticus*;

(2) to place on the Official List of Generic Names in Zoology the name *Megalotragus* Van Hoepen, 1932 (gender: masculine), type species by monotypy *Megalotragus eucornutus* Van Hoepen, 1932 (a junior subjective synonym of *Bubalis priscus* Broom, 1909);

(3) to place on the Official List of Specific Names in Zoology the following names:
   (a) *kattwinkeli* Schwarz, 1932, as published in the binomen *Alcelaphus kattwinkeli* and as defined by the holotype, specimen no. VI-1099 in the Bayerischen Staatssammlung für Paläontologie und historische Geologie in Munich;
   (b) *priscus* Broom, 1909, as published in the binomen *Bubalis priscus* (senior subjective synonym of *Megalotragus eucornutus* Van Hoepen, 1932, the type species of *Megalotragus* Van Hoepen, 1932);

(4) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the name *Rhynotragus* Reck, 1925, as suppressed in (1)(a) above;

(5) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name *semiticus* Reck, 1925, as published in the binomen *Rhynotragus semiticus* and as suppressed in (1)(b) above.

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Comment on the proposed conservation of the specific names of *Strombidium gyrans* Stokes, 1887 (currently *Strobilidium gyrans*) and *Strobilidium caudatum* Kahl, 1932 (Ciliophora, Oligotrichida)
(Case 3011; see BZN **55**: 6–8, 233–236)

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In attempting to focus ecological studies on the living components of ecosystems, I have noted that many students are encouraged to substitute various numerical formulas for the names of the species they are encountering. They are deterred from attempting to identify the organisms with their proper binominal names by difficulties in determining which of the names encountered in the literature are the valid ones. It is clear from a study of entries in *Zoological Record* that authors are now divided almost equally on whether to use *S. gyrans* or *S. caudatum*, and there is a danger that the names will be treated as if referring to different taxa.

In disagreeing with the application to conserve the names of ciliate species that have been in continual use for the better part of a century, both Foissner and Corliss pay lip service to the need to maintain stability in biological nomenclature but fail to recognize the present confusion that the resurrection of forgotten names has introduced into the literature. In effect they are saying that because few scientists are working on the taxonomy of ciliates, those who are should be free to arbitrarily and capriciously choose any names from synonym lists they wish without having to take note of current usage.

The serious confusion caused by the resurrection of the nomen dubium, *Strombidion caudatum* Fromentel, 1876, also involves the brackish water species *Strobilidium caudatum* Kahl, 1932. For five years following Foissner's rejection in 1987 of *Strobilidium gyrans*, *S. caudatum* Kahl was left with a specific name that would have to be regarded as invalid because it was preoccupied by Fromentel's name. In 1992, Petz & Foissner attempted to remedy this situation by giving the species the name *Strobilidium kahli*. However, the generic name *Rimostrombidium* had been proposed in 1978 by Jankowski for the group to which this brackish water species belongs (Agatha & Riedel-Lorje, 1998, p. 10). Giving the species a new specific name was therefore unnecessary, and the name *kahli* must be regarded as invalid on the grounds that Kahl's specific name *caudatum* has priority, the preoccupation having been eliminated by removal of the species from the genus *Strobilidium*. However, should *Rimostrombidium* be reduced to a subgenus of *Strobilidium* at any time in the future, the problem of secondary homonymy would arise again.

With regard to the specific name that has long been regarded as the only valid name of the freshwater species, *Stobilidium gyrans* (Stokes, 1887), neither Foissner nor Corliss address the core of the issue. Foissner maintains that the valid name of the species should be *Strobilidium caudatum* (Fromentel, 1876) because it enjoys priority, a fact that Kahl (1932) is said to have simply overlooked. In fact, this was not the case. Kahl (p. 510) listed Fromentel's name as an invalid synonym because he regarded Fromentel's description as inadequate for recognizing the species and

because Stokes's name had been universally accepted by protozoologists. Foissner's resurrection of Fromentel's name has not been universally accepted, and both names are now finding frequent use in the literature. The reason for this unfortunate state of affairs is that a controversy that was settled by mutual agreement among protozoologists over a century ago was reintroduced in 1987 for no apparent reason. This has generated chaos out of the stability that had existed for the century preceeding Foissner's publication. It is interesting to note that Corliss put some emphasis on an 'Informationsbericht' of the Bavarian State Office of Water Commerce released in 1991, but this has to be regarded as 'grey literature' for taxonomic purposes and should probably not be cited as a scientific publication because it is not generally available as a book or journal issue. A part of this work has been published in English in the journal *Freshwater Biology*, but this part does not relate to the case discussed here.

In addition to the above, it could be suggested that Fromentel's name *Strombidion caudatum* should itself be rejected for this taxon under the Principle of Priority. As Petz & Foissner themselves pointed out, the name *Trichoda cometa* Müller, 1773, was recorded by Dingfelder (1962, p. 606) as a senior synonym of Fromentel's name and used as valid. Although Petz & Foissner (1992, p. 160) said that this synonymy was 'uncertain', they listed the possible synonymy of *Trichoda bomba* Müller, 1773 and *Trichoda trochus* Müller, 1786, but added that 'these three poorly described ciliates are best considered nomina dubia'. If priority is to be the main ground for establishing validity, it could be argued that the earliest one of these names should be chosen. They are names that were 'overlooked' for the same reason that Fromentel's name was not accepted by Kahl (1932) — the description was too poor to permit the ciliate to be recognized unequivocally. With so many old names to chose from, the amount of instability that can be introduced into the scientific literature is almost limitless. I urge that the suppression of *Strombidion caudatum* Fromentel, 1876 as proposed in my application should be approved, with the conservation of the established usage of *Strobilidium gyrans* (Stokes, 1887).

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***Haminoea*, *Haminaea* or *Haminea* (Mollusca, Gastropoda): notes and comments on the spelling and authorship of the generic name, and a proposed Commission ruling**
(Case 2588; see BZN **44**: 166–167; **47**: 263–269)

(1) P.K. Tubbs

Executive Secretary, The International Commission on Zoological Nomenclature, c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K.

In December 1986 Dr R. Gianuzzi-Savelli (Palermo, Italy) submitted an application proposing that *Haminoea* should be confirmed as the correct original spelling of the gastropod generic name sometimes spelled *Haminaea* or *Haminea*, and that it

should be attributed to the authorship of Turton & Kingston, 1830. This was published as Case 2588 (BZN **44**: 166–167; September 1987). With slight modifications the proposals were sent for voting in March 1989 and were accepted by the Commission, with two members voting against on procedural grounds. However, no Opinion was published because some comments led to further bibliographic searches and correspondence, and as a result of these a revised application was published (BZN **47**: 263–269; December 1990) in the names of R. Gianuzzi-Savelli and A. Gentry. This proposed that the spelling and authorship of the name should be taken as *Haminaea* Leach, [1820].

The second application traced the history of the various spellings in detail. It is clear that the name, in its various forms, derives from a name '*Haminaea*' which appeared in proofs printed for W.E. Leach in 1818 and 1820; Leach's texts were only published posthumously many years later (in 1847 and 1852) but were known to conchologists long before, either from the proof sheets or from hand-written copies. The first spelling published in the meaning of the Code was *Haminoea*, by Turton in 1830 (it is likely, as recounted in BZN **47**: 265, para. 5, that Turton alone was the author of the published name and description).

Following the revised application, comments were received from R. Burn (Australia), P. Bouchet (France), P.M. Mikkelsen (U.S.A.) and R.C. Willan (Australia). All supported the original proposition (BZN **44**: 166–167) that the spelling *Haminoea* should be accepted as correct, on the grounds that it had the greatest usage and was the first properly published version. Bouchet and Burn were opposed to any ruling on the status of Leach's ms. works in the absence of studies on other names which occurred in them, and Bouchet noted that four names of related genus-group taxa terminated in *-haminoea*.

Unfortunately none of these comments was published, and in November 1998 their authors were approached for their current views. Both they and others have responded, and it is clear from the comments below that *Haminoea* remains the favoured option. Since the publication of the revised application (BZN **47**: 263–269) in 1990 there has been usage by some European authors of the name *Haminaea*, but in at least some instances this has been due to the mistaken impression that this spelling had been conserved by Commission action following the second application.

In the light of the comments it is now proposed (see p. 56 below) that the Commission should confirm that the spelling *Haminoea* is correct, and that the authorship should be attributed to Turton (1830). The present proposals, which do not involve setting aside any provision of the Code (i.e., the use of the Commission's plenary powers), are in effect those accepted by the Commission in 1989, and Dr Giannuzzi-Savelli has agreed (see below) to the withdrawal of the second application (which proposed that the spelling *Haminaea* be conserved from Leach, [1820]).

(2) Riccardo Gianuzzi-Savelli

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In the light of the comments which have been received I now believe that the spelling *Haminoea* should be adopted, as I had proposed in my first application. I hope there will be an Opinion to this effect as soon as possible, since at present there is unfortunately instability, which is the opposite of what I sought.

(3) Robert Burn

3 Nantes Street, Newtown, Geelong, Victoria, Australia 3220

I strongly believe that the name *Haminoea*, validly published by Turton (in Turton & Kingston, 1830) should be maintained in the interests of both stability and priority. I would greatly welcome an Opinion to this effect. I also believe that to accept even one name (e.g. *Haminaea*) from Leach's unpublished manuscripts of 1818 and 1820 would be to open a veritable 'can of worms'.

(4) Richard C. Willan

Museum & Art Gallery of the Northern Territory, GPO Box 4646, Darwin, Northern Territory 0801, Australia

I urge the Commissioners to vote in favour of the spelling *Haminoea* in the interests of priority, continuity and stability.

Priority and availability

1. That *Haminoea* is the oldest available name for this genus of opisthobranch gastropod is not contested. It was introduced by Turton (in Turton & Kingston, 1830) with type species *Bulla hydatis* Linnaeus, 1758 by monotypy.

2. The alternative name, *Haminaea* of Leach, refers to the same taxon and (a) only appeared in manuscripts in 1818 and in 1820, (b) was only validly published in 1847, (c) occurred there only in a list, (d) had three specific names attached to it, none being noted or denominated as the type species, and (e) had ambiguous original scope.

3. The argument in the second application (1990) recommending that the manuscript name *Haminaea* Leach, [1820] be deemed nomenclaturally available is unsustainable. There is simply no place for such an argument when there exists another, much more widely used name for the same genus.

Continuity and stability

The name *Haminoea* is unequivocally the most widespread in the literature from 1830 to 1990. With virtually no exceptions (less than 5 to my knowledge; and these could be unintentional errors in a name which is vulnerable to mistakes), *Haminoea* has been the spelling employed exclusively by taxonomists in Australia, New Zealand, Japan, elsewhere in Asia, Oceania, North America and South America throughout this entire period.

Although the spelling *Haminaea* has been reintroduced by some European workers since 1990 under the supposition that this name had been conserved by the Commission following the second application, the majority of workers around the world have continued to use *Haminoea*. This name appears in influential books and monographs taking an overview of the fauna of whole regions, whole geological epochs and/or major overviews of morphology. These include the works cited below, and I estimate I could make a list of 200 usages of *Haminoea* since 1990.

Some Japanese authors have used the stem *-haminoea* to create new genera for species closely related to *Haminoea* (e.g. *Lamprohaminoea* Kuroda & Habe, 1952, *Sericohaminoea* Habe, 1952).

The conclusion in the second application that 'stability in the nomenclature would be better served by conserving *Haminaea*' (BZN **47**: 266, para. 8) is quite wrong. In fact, this act would inevitably lead to confusion and instability, an observation stressed by others. One by-product of this suggestion of accepting *Haminaea* Leach,

[1820] was a request to the Commission to 'suppress' two of Leach's ms. works, *The classification of the British Mollusca* ([1818]) and *A synopsis of the Mollusca of Great Britain* ([1820]), while at the same time conserving *Haminaea* from the latter; this concept is highly unpalatable.

The taxonomists who sent comments on the second application strongly favoured *Haminoea*, and the additional molluscan researchers whom I have recently contacted take this view. These workers, some of whom will no doubt send messages themselves, are Klussman-Kolb (Germany), Fukuda (Japan), Rudman (Australia), J.E. Morton (New Zealand), Miller (New Zealand), B.A. Marshall (New Zealand), Bryce (Australia), Carlson (Guam), Brunckhorst (Australia), Kilburn (South Africa), Brodie (Australia), Spencer (New Zealand), Wagele (Germany), J.G. Marshall (Australia), Johnson (U.S.A.), Harris (U.S.A.), Millen (Canada), Schrodl (Germany) and Sachidhanandam (Singapore).

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(5) W.B. Rudman

Australian Museum, 6 College Street, Sydney, NSW 2000, Australia

Most workers outside Europe have always used the name *Haminoea*. The spelling *Haminaea* has had some European usage since 1990, but clearly because those authors considered that the second application had some status (though the Commission has never voted upon it).

The spelling *Haminoea* is the earliest available name, and to set aside the normal rules by validating a name from an unpublished work would cause confusion and overturn existing usage. I support the comments and the reasons which have been put forward by others, and I urge the Commission to rule in favour of the name *Haminoea*.

(6) C.W. Bryce

Museum of Natural Science, Department of Aquatic Zoology, Francis St., Perth 6000, W. Australia

I would like to express my support for the arguments for retention of the popularly used spelling of *Haminoea*. This is the spelling used by Dr. Fred Wells and myself in our book *Sea Slugs and their relatives of Western Australia* (1993).

(7) Hamish G. Spencer

Department of Zoology, University of Otago, P.O. Box 56, Dunedin, New Zealand

I would like to add my support to those who argue for the retention of *Haminoea*. This spelling, which has undisputed priority as a nomenclaturally available name, has been used exclusively by all New Zealand authors (including those of three recent major checklists). I see no reason to depart from usual practice by using *Haminaea*.

(8) Philippe Bouchet

Muséum National d'Histoire Naturelle, 55 rue de Buffon, 75005 Paris, France

As I mentioned in a comment sent in 1991, there are at least four genus-group names ending in *-haminoea*, and I have found none based on the root *-haminaea*.

As I also mentioned, and as documented by Gianuzzi-Savelli & Gentry, Leach's manuscripts were known to conchologists from 1820 onwards but they remained unpublished in the sense of the Code. A precedent would be set, and presently undetected difficulties may be caused, if the Commission makes any ruling treating Leach's works as having been published. Clearly the second application is based on a much more thorough study of the background, but the first application may be right for the outcome. I recommend that the spellings *Haminoea* and HAMINOEIDAE be accepted.

(9) Michael Schroedl

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Haminoea is (a) the spelling we are all familiar with; (b) the earliest validly published name; (c) historically, it is the most widely used spelling; (d) it is the only spelling ever used by Asian, Australian, New Zealand and North American authors. I understand that the original application for its retention was accepted by a majority of ICZN Commissioners, and there is the additional very good point that four related genus-group names end in the termination *-haminoea* (e.g. *Lamprohaminoea*).

(10) Julie Marshall

La Trobe University, Bundoora, Victoria 3083, Australia

I should like to support the continued use of the name *Haminoea* as it is the first name to be validly published and, most importantly, as has been documented by others, it has for a very long time been the spelling of the name in most common usage. It is the name we are familiar with and are continuing to use, and I strongly urge that it be retained.

(11) T.M. Gosliner

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It has recently come to my attention that the Commission is going to review Case 2588 regarding the genus-group name *Haminoea*. I strongly advocate employing this spelling, the first published name and the one used by most specialists of opisthobranch molluscs. The Principle of Priority should only be departed from if it severely disrupts stability, and in this case the principle actually maintains usage. In the case of *Haminoea*, other spellings have been sporadically used, generally by workers compiling faunal lists from other sources and not in primary systematic treatments. There is no case, either of priority or stability, for using either *Haminaea* or *Haminea*.

(12) Paula M. Mikkelsen

Department of Invertebrates, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024–5192, U.S.A.

Pursuant to Case 2588 regarding *Haminoea*/*Haminaea*/*Haminea*, I offer the following comments supplemental to those earlier presented by myself, Richard Willan and Philippe Bouchet. There has been some usage of the spelling *Haminaea* since the publication of the revised application (Gianuzzi-Savelli & Gentry, 1990), although even since then most major works have continued to use *Haminoea*. Clearly a formal ruling is urgently needed, especially now.

As I mentioned previously, up to 1990 *Haminoea* was the most used spelling, followed by *Haminea*; *Haminaea* had been used very seldom, and according to my records the proposal in the second application that it should be adopted would not be in the interest of stability.

I have assembled a list of 13 papers from my files since 1991 that have used *Haminaea* (see below). However, these papers come from only a small number of groups and all of them are decidedly non-comprehensive in nature; nearly half were written by non-systematists. The use of the spelling *Haminaea* in these papers is, in my opinion, a direct result of the fact that this case has not been resolved by the Commission. Of the 13 references, 6 used the spelling without comment while the other 7 cited one or both of the applications. García et al. (1991) cited the 1990 petition as 'pending', while Martínez & Ortea (1997) and Schaefer (1992) mentioned both applications, the former authors interpreting the 5–8 years of indecision as license to choose either spelling. Gibson (1995) and Gibson & Chia (1994, 1995) cited

the second (1990) application without comment, as though it was a Commission ruling. I have, in the intervening years, encountered and corrected more than one of these kinds of statements in papers I have peer-reviewed. It is interesting that Gibson & Chia (1989a, b) used the spelling *Haminoea* prior to the 1990 petition for *Haminaea*.

My survey of post-1990 usage points to two facts: (1) the willingness of authors to follow ICZN rulings (albeit prematurely in these cases), but also (2) the insistence by specialists in opisthobranch biology and systematics on use of the spelling *Haminoea*.

I trust that the ICZN will finally bring this long-overdue Case to conclusion, and regardless of outcome, publish in the *Bulletin* the comments submitted to them.

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(12) Heike Waegele

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I strongly approve the retention of the spelling *Haminoea*, as suggested by others. Their arguments are convincing, and make much more sense than adoption of *Haminaea*. I also looked in my files on the spelling of this genus in the literature and came to a similar conclusion as P. Mikkelsen (above). There is much more use of *Haminoea* than of *Haminaea*. Even though there is some recent literature using the spelling *Haminaea*, the more important recent systematic works (e.g. the *Southern Synopsis*) continue to use *Haminoea*.

I hope this helps you to find a solution to this problem.

Proposals

In the light of the comments above, the International Commission on Zoological Nomenclature is asked:

(1) to place on the Official List of Generic Names in Zoology the name *Haminoea* [Turton], 1830 (gender: feminine), type species *Bulla hydatis* Linnaeus, 1758 by monotypy;

(2) to place on the Official List of Specific Names in Zoology the name *hydatis* Linnaeus, 1758, as published in the binomen *Bulla hydatis* (specific name of the type species of *Haminoea* [Turton], 1830);

(3) to place on the Official List of Family-Group Names in Zoology the name HAMINOEIDAE Pilsbry, 1895 (type genus *Haminoea* [Turton], 1830) (correction of HAMINEIDAE under Article 35d of the Code);

(4) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the names *Haminaea* Leach, 1847 and *Haminea* Gray, 1847 (incorrect subsequent spellings of *Haminoea* [Turton], 1830);

(5) to place on the Official Index of Rejected and Invalid Family-Group Names in Zoology the name HAMINEIDAE Pilsbry, 1895 (incorrect original spelling of HAMINOEIDAE).

For references to the above names see BZN **44**: 166–167 and **47**: 263–269.

Comments on the proposed conservation of *Hydrobia* Hartmann, 1821 (Mollusca, Gastropoda) and *Cyclostoma acutum* Draparnaud, 1805 (currently *Hydrobia acuta*) by the replacement of the lectotype of *H. acuta* with a neotype; proposed designation of *Turbo ventrosus* Montagu, 1803 as the type species of *Ventrosia* Radoman, 1977; and proposed emendation of spelling of HYDROBIINA Mulsant, 1844 (Insecta, Coleoptera) to HYDROBIUSINA, so removing the homonymy with HYDROBIIDAE Troschel, 1857 (Mollusca)

(Case 3087; see BZN **55**: 139–145)

(1) Philippe Bouchet

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I wish, in my capacity as curator of Recent molluscs in the Muséum National d'Histoire Naturelle, Paris, to correct an inappropriate wording in para. 6 of the

application: '[Boeters] regarded them [two putative syntypes found at the MNHM] as syntypes because when Dollfus (1912, pl. 4, figs. 5-8) figured them he wrote '*Hydrobia acuta* Draparnaud sp. (types: Muséum de Vienne)' in the caption; whether they were actually original specimens is impossible to determine'.

I should like to draw attention to p. 250 of Dollfus's (1912) publication: 'La figure de Draparnaud est mauvaise, comme on pourra s'en convaincre en la comparant aux photographies que nous donnons des échantillons types, de sa collection, dont nous avons eu communication, de la manière la plus aimable, par les soins des conservateurs du Musée de Vienne'. [Draparnaud's illustration is inaccurate, as evidenced by a comparison with photographs of type specimens, from his collection, which have been communicated to us, in the most courteous manner, by the curators of the Vienna Museum]. In my view this leaves not the slightest doubt on the syntype status of the specimens illustrated as such by Dollfus, and I reject categorically the suspicion that they are not original material. Why a couple of specimens were retained by Dollfus in Paris rather than returned to Vienna is another question, but one can surmise that, considering that over 70 syntypes were present in Vienna, Dollfus received permission to retain a couple of them.

(2) Hans D. Boeters

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We cannot agree with the first proposal of para. 12, item (1) of the application by Giusti, Manganelli & Bodon, that is, to replace the validly designated lectotype of *Cyclostoma acutum* Draparnaud, 1805 by a neotype, which even belongs to a species and (sub)genus different from the lectotype. It is only because the valid type designation has been either neglected or ignored that the nomenclatural stability sought by Boeters (1984) has not yet been reached. Despite the statement by Giusti, Manganelli & Bodon (1998, p. 7), Boeters (1984) clearly emphasized that the lectotype and the paralectotype of *Cyclostoma acutum* are not conspecific. We see no

reason why a choice between retaining the lectotype and designating a neotype should not be guided by the objectivity of the Code. There has been a formal action and there is a Code to be followed towards stability.

There is general consensus that the syntypes from the Draparnaud collection on which the name *Cyclostoma acutum* was based belong to two species. Their identification is also not a matter of dispute. Giusti & al. (1998) have published excellent photographs of the shells and, in particular, the diagnostic soft parts of both species. Authors also agree that the existing lectotype is unequivocally recognizable as belonging to one of these species. There is no reason why the type series with identifiable shells should be invalidated. Therefore, the creation of a neotype is not an option anyway.

The following notes summarize the arguments for our point of view on this case; the nominal species involved have a rather complicated history.

A. Validity of the lectotype of *Cyclostoma acutum* Draparnaud, 1805 as designated by Boeters (1984)

1. *Cyclostoma acutum* was described by Draparnaud (1905) without a locality other than 'France'. In view of the fact that Draparnaud was 'Professeur d'Histoire Naturelle à l'École de Médecine de Montpellier' it has been assumed that the type material was collected near Montpellier. Consequently, Radoman 1977 (p. 207) restricted the type locality to 'Étang du Prévost, Palavas, französische Mittelmeerküste [French Mediterranean coast]'.

2. Draparnaud's collection was acquired by the Naturhistorisches Museum in Vienna in 1819 (see Locard, 1895). His collection did not contain any syntypes of *Cyclostoma acutum* when Boeters (1969) and Falkner (1979 and 1983) independently searched for them. At these times the fate of the syntypes was unknown. However, Dollfus (1912, pl. 4, figs. 5–8) published photographs of two syntypes from Draparnaud's collection, which Boeters (1984, p. 3) subsequently found in the Muséum National d'Histoire Naturelle in Paris and photographed again. Boeters (1984, p. 4) came to the unequivocal conclusion that the two syntypes belong to different species and he was thus the first to detect that *Cyclostoma acutum* was founded on a mixture of two biological species. His view that the syntypes of *C. acutum* belong to different species was confirmed by dissections of animals collected by himself at the Étang du Prévost (see Boeters 1984, p. 4).

3. At least until 1977 (Radoman's paper), *Cyclostoma acutum* Draparnaud, 1805 was understood in different ways but always related to *Turbo ventrosus* Montagu, 1803: either as (possibly) a younger synonym of *Turbo ventrosus* (see para. 4 below), or as a species different but congeneric with *Turbo ventrosus* (see para. 5 below).

4. *Cyclostoma acutum* as (possibly) a younger synonym of *Turbo ventrosus*

4.1. Some selected examples of authors following this view are Forbes & Hanley (1850, p. 138); Jeffreys (1862, p. 68: 'There can, however, be no doubt of its [*H. ventrosa*] being the *Cyclostoma acutum* of Draparnaud'); Frauenfeld (1863, p. 1019: '*H. ventrosa* Mont. ... Ich folge den englischen Autoren, die für die Draparnaudsche Art den obigen Namen annehmen ...' [I follow the English authors who accept the above mentioned name for Draparnaud's species]); Geyer, (1909, p. 93 and 1927, p. 167: '*P. ventrosa* Montagu ... Syn. *stagnalis* der Holländer, *acuta* Drap. der Literatur.'); Kennard & Woodward (1926, pp. 18 and 19).

4.2. *Turbo ventrosus* was described by Montagu (1803, p. 317, pl. 12, fig. 13) as follows: *T[urbo]* with a smooth, glossy, thin shell, with six ventricose, or much rounded volutions, of a light pellucid horn-colour; but when the animal is in it, the appearance is black: apex moderately pointed: aperture suborbicular, closed by a thin, wrinkled, corneous operculum: margin almost intire [sic] the whole way round. Length one eighth of an inch; breadth about one third its length'. The name *Turbo ventrosus* was unambiguously treated as valid by its author and not 'proposed in synonymy' as indicated in the application (para. 6) by Giusti et al. Robson (1922) provided anatomical data based on British specimens: (i) for the male he reported (p. 181): 'The intromittent portion [of the penis] in *P[aludestrina] ventrosa* is long and pointed'; (ii) for the female, the bursa copulatrix (termed oviducal gland) was described as follows (p. 178): 'In general form it is an irregular-shaped gland with a short duct'. According to fig. 8 the shape of the bursa with its duct resembles somewhat that of a kidney (Boeters 1984, p. 4, speaks of a shape like that of a hammer).

4.3. It is important to state here that the anatomical features of the (i) male and (ii) female reported by Robson (1922) are presented by only one of the two species examined by Boeters from the Étang du Prévost (and present in the type series of *Cyclostoma acutum*). The result is the same when turning to conchological features: 'much rounded volutions' and 'suborbicular aperture' described by Montagu (1803) for his *Turbo ventrosus* can only be found in that species from the Étang du Prévost which shows simultaneously both anatomical features (i) and (ii) given by Robson.

5. *Cyclostoma acutum* as congeneric with *Turbo ventrosus*

5.1. The understanding of *Cyclostoma acutum* as a distinct species which is congeneric with *Turbo ventrosus* (of which it is the Mediterranean representative) has mainly been that of authors studying the French or Mediterranean fauna. Examples of this interpretation are Dollfus (1912), Wagner (1928, p. 275) and Germain (1931, p. 647).

5.2. Authors who considered *Hydrobia acuta* as a distinct, mainly Mediterranean species differentiated it from the Atlantic *Hydrobia ventrosa* (formerly often regarded as synonymous with *Helix stagnorum* Gmelin, 1791), but they were not aware that their understanding of *H. acuta* encompassed two taxa (one with flat whorls and the other with convex whorls). The fact that Dollfus photographed two syntypes belonging to different species (1912, pl. 4, figs. 5 and 8 and figs. 6–7) shows that he encompassed two different species within his concept of *Cyclostoma acutum*. This is reflected in photographs of samples from his own collection, attributed to *Hydrobia acuta* sensu Dollfus, since these samples belong to more than one species; especially in the shells from Palavas are the whorls of one specimen (pl. 4, figs. 11 and 13) markedly more vaulted than those of the other one (figs. 12 and 14). Figures 11 and 12 were later copied by Wenz (1939, p. 555, fig. 1487) as representing the type species of *Hydrobia*. Further striking evidence that Dollfus did not establish an understanding of *Cyclostoma acutum* as a species with flat whorls is, finally, given by Germain (1931, p. 648) who referred to Dollfus and defined *Paludestrina acuta* as having a 'spire formé de 6–7 tours assez convexes'. Wagner (1928, p. 275) also examined syntypes in Draparnaud's collection; in attributing several samples of his own or other collections to *Hydrobia acuta*, specimens with more or less vaulted whorls seem to be included when he speaks of 'der schwächeren oder stärkeren Wölbung'. He was apparently not aware that the type series was a mixture of two species.

6. In 1977 Radoman (p. 206, fig. 2 and pl. 21, figs. 1 2) published under the name *Hydrobia acuta* conchological and anatomical data of molluscs collected at the type locality as restricted by him. These animals belonged only to the species with flat whorls and were not characterized by the anatomical features reported by Robson (1922) for *Turbo ventrosus*. Since, until Radoman's (1977) publication, *Cyclostoma acutum* Draparnaud, 1805 had been predominantly understood as a (possibly) younger synonym of *Turbo ventrosus* Montagu, 1803, or at least a closely related species, Boeters (1984) did not follow Radoman in his interpretation of *C. acutum* but tried to conserve the historical understanding in his designation of a lectotype (Boeters, 1984, pl. 1, fig. 1, corresponding to Dollfus, 1912, pl. 4, figs. 5 and 8). In comparison with the then accessible paralectotype, only the lectotype shows the convex whorls which are regarded as characteristic of *Hydrobia ventrosa* and allied species. Further, as regards the two different species examined by Boeters from the Étang du Prévost, only that species which can be correlated with the lectotype based on the mentioned conchological features shows both anatomical features (i) and (ii) as reported by Robson (1922) for *Hydrobia ventrosa*. Irrespective of the taxonomic question as to whether *Hydrobia acuta* and *ventrosa* should be regarded as synonyms or as two distinct but closely related species the lectotype designated by Boeters (1984) was in full accord with all the facts relevant for stability of nomenclature at that time. It is not clear to us why Giusti & Pezzoli (1985, p. 124, note 13) refused to accept this legitimate lectotype designation.

7. The designation of the lectotype by Boeters (1984) served not only for stability as regards the understanding of *Cyclostoma acutum* Draparnaud, 1805, but also for that of *Hydrobia* Hartmann, 1821, as will be explained in the following paragraphs.

B. The current understanding of *Hydrobia* Hartmann, 1821

1. When establishing the genus *Hydrobia*, Hartmann (1821a, pp. 47 48, 58; 1821b, pp. 202, 258) included *Cyclostoma acutum* Draparnaud, 1805, which was subsequently selected by Gray (1847) as the type species.

2. It should be stressed that a penis having an 'intromittent portion ... long and pointed', as describd by Robson (1922) for *Turbo ventrosus* Montagu, 1803, was considered to be characteristic not only of *Turbo ventrosus* but also of the genus *Hydrobia*, at least until 1977. This can be shown by the following references: Henking (1894, pl. 4, fig. 2, *Hydrobia ulvae*); Robson (1922, p. 181, *Hydrobia ventrosa*); Krull (1935, p. 433, fig. 16A, *Hydrobia ventrosa*, and fig. 16B, *H. ulvae*); Muus (1963, p. 133, figs. A-B, *Hydrobia ventrosa*, and figs. E-F, *H. ulvae*); Davis (1966, p. 32, fig. 3, *H. totteni*); Radoman (1974, p. 286, *Hydrobia* in general); Hershler & Davis (1980, p. 204, fig. 4D, *H. truncata*).

3. It must be added that in 1963 Muus (p. 133, fig. D) described *Hydrobia neglecta* and figured for the first time basically different anatomical features. The intromittent portion of the penis of *H. neglecta* is described as 'stout as compared with the slim, pointed organ of *H. ventrosa*, and the rounded tip is usually bent at right angles with the axis of the penis. A skin fold forms a characteristic obtuse angle at the point of bending of the tip'.

4. In his (1974) paper Radoman gave the first general definition of the genus *Hydrobia* based mainly on anatomical characters, and the relevant passage of this definition clearly says (p. 286) that 'the penis is longer [than in *Obrovia* Radoman,

1974] and pointed'. In consequence of this difference from the traditional understanding of *Hydrobia*, Radoman introduced a separate genus for a new species having a penis like that of *Hydrobia neglecta*, viz. *Obrovia* Radoman, 1974 (type species *Obrovia salaria* Radoman, 1974).

5. As already mentioned above, the paralectotype studied by Boeters (1984) must be attributed to a species different from the lectotype. When comparing both species based on the syntypes of *Cyclostoma actum* Draparnaud, 1805 and on material collected in the Étang du Prévost, Boeters (1984) came to the conclusion that the species represented by the paralectotype would have to be treated as belonging to *Obrovia* Radoman, 1974, and not to *Hydrobia* Hartmann, 1821 in the sense of experts at that time.

6. From the foregoing explanation it follows that the designation of a lectotype by Boeters (1984) not only stabilized the understanding of the identity of *Cyclostoma acutum* Draparnaud, 1805 but also that of *Hydrobia* Hartmann, 1821.

We have no comment to make on the second and third proposals of para. 12, item (1) of the application by Giusti, Manganelli & Bodon (those dealing with the generic name *Ventrosia* Radoman, 1977 and the homonymous family-group names HYDROBIIDAE in the Mollusca and Insecta).

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For the reasons given on p. 103 of my recent paper (Hoeksema, 1998) on *Hydrobia acuta* (Draparnaud, 1905) I should like to underline the necessity of the designation of a neotype for *H. acuta*, as proposed by Giusti, Manganelli & Bodon in their application.

The specimen in Paris selected as the lectotype of *Hydrobia acuta* by Boeters (1984) is clearly a specimen of *H. ventrosa* (Montagu, 1803): it has convex whorls, deep sutures and a wide umbilicus. A second specimen in Paris of Draparnaud's original material, showing more flattened whorls, shallow sutures and an almost closed umbilicus, is a specimen of *H. acuta* as identified by Radoman (1977). Both *H. acuta* and *H. ventrosa* occur in the étangs near Montpellier, Hérault, southern France, the type locality for *H. acuta* defined by Radoman.

Acceptance of Boeter's (1984) unfortunate lectotype designation would render *H. acuta* a junior synonym of *H. ventrosa* and a new name would need to be found for *H. acuta* sensu Radoman (1977), Giusti & Pezzoli (1984), Giusti, Manganelli & Schembri (1995) and nearly all subsequent authors.

I therefore fully support the application.

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I support the application.

The proposed replacement of the lectotype of *Hydrobia acuta* (Draparnaud, 1805) with a neotype will stabilize a recently developed species concept. The nomenclature of the nominal species involved in this application and their genera are not yet fully stable for taxonomic reasons as the taxa are still the subject of research. The species concept of *Hydrobia acuta* which the applicants wish to confirm was established not before 1977 (Radoman's publication) and then only by serendipity because Radoman apparently had only one of the two sympatric species (*H. acuta* sensu Radoman, and not *H. ventrosus* Montagu, 1803) available for study from the type locality defined by him. The lectotype selection by Boeters (1984) was valid but was later recognized to have the effect of synonymizing *H. acuta* with *H. ventrosa*.

There are two small points to be made on the type material of *Hydrobia acuta*. In para. 5 of the application the 'type locality' defined by Radoman, the Étang du Prévost near Palavas, is cited without comment. Draparnaud (1805) did not give a locality, nor is any reported from the labels on specimens in his collection (see Locard, 1895; Dollfus, 1912; and Boeters, 1984). His material could have come from anywhere in France but it is plausible (as assumed by other authors) that much of it

was collected in the vicinity of his home town, Montpellier. Radoman did not offer any evidence that the syntypes originated from this locality, nor did he examine any. In para. 6 the applicants state '... whether they [the two specimens figured by Dollfus, 1912 and taken to be syntypes by Boeters, 1984] were actually original specimens is impossible to determine'. Dollfus (1912) stated that he obtained 'des échantillons types, de sa [Draparnaud's] collection ... de la manière la plus aimable, par les soins des conservateurs du Musée de Vienne'. In fact, the number of syntypes given by Locard (1895) agrees with the numbers viewed by the applicants (para. 4 of the application) if the two shells illustrated by Dollfus (1912) and Boeters (1984) are included.

The name of the type species of *Ventrosia* Radoman, 1977 should be corrected as proposed in the application (see para. 10) as the species intended and described by Radoman (1977) is evidently *Hydrobia ventrosa* (Montagu, 1803). Radoman (1977) used the senior name '*Helix*' *stagnorum* Gmelin, 1791 because it was not known prior to the paper of Bank, Butot & Gittenberger (1979) that this nominal species was not conspecific with *H. ventrosa*.

It should perhaps be noted that, in placing *Ventrosia* Radoman, 1977 on the Official List, *Ecrobia* Stimpson, 1865 (p. 42) is likely to be its senior subjective synonym. The type species of *Ecrobia* by original designation, *Turbo minutus* Totten, 1834 (p. 369) (non Brown, 1818, p. 463, pl. 10, fig. 13; Michaud, 1828, p. 122, pl. [1], figs. 7–9; and Woodward, 1833, pp. 28, 44, pl. 3, fig. 20), replaced as a junior primary homonym by *Hydrobia totteni* Morrison, 1954 (p. 26), is, according to Davis, McKee & Lopez (1989), very closely related to *H. ventrosa*, and therefore *H. totteni* and *H. ventrosa* are in all probability congeneric even if the genera are defined in a narrow sense.

I fully support the action proposed to remove the homonymy between the mollusc and insect family-group names HYDROBIIDAE for the reasons stated by the applicants.

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Comment on the proposed conservation of the specific name of *Papilio sylvanus* Esper, [1777] (currently *Ochlodes venata* or *Augiades sylvanus*; Insecta, Lepidoptera)

(Case 3046; see BZN **54**: 231–235; **55**: 105–106, 169–171)

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de Jong & Karsholt (BZN **55**: 169–171) have opposed the conservation of the specific name of *Papilio sylvanus* Esper, [1777] and found two 'reasons' for this arising from my proposal. I feel that there is misrepresentation in their comment, the situation being far more complicated than they portray, and I would like to clarify the matter.

The fact that the specific name *sylvanus* Esper 'has appeared in many guides and lists' is not the most important reason for the request for its conservation, as was erroneously stated by de Jong & Karsholt. More significant is the fact that the specific name was well-established and consistently used for more than 150 years, and there has never been any confusion with its senior primary homonym, the name of an African lycaenid, neither species having been placed in *Papilio* since the 18th century. On the other hand, the name *Ochlodes venata faunus* (Turati, 1905) appeared in the literature only after the revisional work of Evans (1949), and only due to confusion at the species level with the Chinese *Ochlodes venata* (Bremer & Grey, 1853). And even since 1949 the adoption of the name *faunus* has not been unanimous. In view of this I cannot agree with de Jong & Karsholt that 'the combination *Ochlodes venata faunus* is well established'.

Since the 'European subspecies of *Ochlodes venata*' has proved to be a Trans-Palaearctic species distinct from the Asian *O. venata* (Bremer & Grey, 1853), two other names are available for it, *hyrcana* Christoph, 1893 and *similis* Leech, 1893, both older than *faunus* Turati, 1905 (para. 5 of the application). Which of the three should be adopted? The problem is that all the nominal taxa to which these three names are applied may eventually prove to be distinct species, and the solution to this taxonomic and nomenclatural problem requires a long-term biological study, partly in barely accessible localities.

Ochlodes (or *Augiades*) *sylvanus* (Esper), a most common and highly variable species, was very well known at the time of the description of *O. faunus*; Turati (1905) described the latter in comparison with *O. sylvanus*, and the fact that the type of *O. faunus* has been destroyed is not the second reason for my proposal (as stated by de Jong & Karsholt), but it adds to the complexity of the problem.

The statement of de Jong & Karsholt that 'Rondou (1932) and all the subsequent authors agree that Turati's name pertains to the same taxon as Esper's name' is not a strong argument because nobody (including de Jong himself) has ever studied the problem of European *Ochlodes venata faunus* since Evans's (1949) work. The Lepidoptera of the Pyrenees, a distinctive area with many endemic taxa at both specific and subspecific levels, cannot be regarded as 'rather well known' (as stated by de Jong & Karsholt), since the facts confirm the opposite. Descriptions of new taxa from the Iberian Peninsula (*Agrodiaetus ainsae* Forster, 1961, *A. agenjoi* Forster, 1965, *A. violetae* Gomez Bustillo & Borrego, 1979 and *Leptidea reali* Reissinger, 1989, for example), as well as numerous changes in the taxonomic status of butterflies of Western Europe (see, for example, Tolman, 1997), give clear evidence in favour of this view. Moreover, de Jong himself discovered an unrecognized species of *Carcharodus* in the Iberian Peninsula (de Jong, 1978) and found problems in the definition of the rank of *Pyrgus* (*malvae*) *malvoides* (Elwes & Edwards, 1897) (see de Jong, 1972, 1987).

Therefore, until an intensive biological study is conducted, I personally can accept the existence of two species or subspecies of *Ochlodes* in the Pyrenees, notwithstanding the statement of de Jong & Karsholt that 'it is highly unlikely that one of them has always escaped the attention of all people' who collected there; this was just the case

with de Jong (1972), who unhesitatingly regarded *Pyrgus sibirica* (Reverdin, 1911) from Altai as a Siberian subspecies of *P. centaureae* (Rambur, 1839) (having laid a solid base of 'the biological species concept' to his conclusion), while Devyatkin (1990) subsequently proved with certainty that the taxa are sympatric in the Altai Mountains.

In conclusion, I would like to point out that Dr P.S. Wagener, cited by de Jong & Karsholt in favour of their view (Hesselbarth, van Oorschot & Wagener, 1995), has commented in support of my proposal (BZN **55**: 105–106; June 1998), as indeed would many other authors who have had to use the name *faunus* because no better solution to this nomenclatural problem has ever been proposed.

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Comment on the proposed designation of *Iguanodon bernissartensis* Boulenger in Beneden, 1881 as the type species of *Iguanodon* Mantell, 1825, and proposed designation of a lectotype (Reptilia, Ornithischia)

(Case 3037; see BZN **55**: 99–104, 172, 239–241)

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I would like to reply to the recent objection to the proposal to stabilise the generic name *Iguanodon* Mantell, 1825 by the designation of *I. bernissartensis* Boulenger in Beneden, 1881 as the type species, as advocated by Charig & Chapman in their application (BZN **55**: 99–104, June 1998). While I sympathise with the views of Dr Sues (BZN **55**: 240–241, December 1998) regarding the historical primacy of the original teeth described by Gideon Mantell in 1825, Sues nevertheless admits that they lack diagnostic characteristics which provide for unequivocal stability of such an important (historically-speaking) dinosaur name.

In my monograph on *Iguanodon* published in 1986 (to which Sues refers) I wrestled with this particular taxonomic problem and concluded that it might be best to reserve the name *Iguanodon anglicus* Holl, 1829 exclusively for the original teeth collected from the now abandoned (and infilled) quarry at Cuckfield, Sussex, and described by Mantell. I was attempting to preserve what I deemed to be historically important icons that could be associated with the first establishment of the name. This is the point to which Sues pays particular attention, in the belief that the teeth discovered by Mantell may, in time, prove to have some diagnostic characters.

I discussed this matter with the late Dr Alan Charig on several occasions, and have had the benefit of studying the teeth of a wide range of iguanodontid dinosaurs, including the European forms *Iguanodon atherfieldensis*, *I. bernissartensis* and *I. fittoni*, as well as *I. lakotaensis* from North America, *Ouranosaurus nigeriensis* from North Africa and *Altirhinus kurzanovi* from Mongolia, and the more distantly related *Camptosaurus* from North America/England. My view is that the circumstances suggested by Sues (that tooth characters may emerge that are likely to prove diagnostic for the teeth described originally by Mantell) are remote in the extreme. The degree of variability exhibited in the teeth of all the animals mentioned above, both within the jaw at any one time (positional variation) and as a consequence of changes due to growth (ontogeny), are such that teeth alone cannot be used reliably for taxonomic assignment.

In view of this I disagree with Sues's objections and support the proposal of Charig & Chapman, which modifies what I originally (1986) hoped would prove to be a 'safe' solution to the problem of the nomenclatural vulnerability of the famous dinosaur name *Iguanodon*.

Comments on the proposed conservation of the names *Hydrosaurus gouldii* Gray, 1838 and *Varanus panoptes* Storr, 1980 (Reptilia, Squamata) by the designation of a neotype for *H. gouldii*
(Case 3042; see BZN **54**: 95 99, 249 250; **55**: 106 111, 173-176)

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1. The authors of the application (Prof Robert Sprackland, Prof Hobart Smith and Dr Peter Strimple) have stated (BZN: **54**: 95) that 'the purpose of this application is to conserve the near universal usage of the name *Varanus gouldii* (Gray, 1838) for the sand monitor or Gould's goanna which is found over most of Australia, and of *V. panoptes* Storr, 1980 for the yellow spotted monitor from areas of western and northern Australia, New Guinea and Indonesia (family VARANIDAE)'. The authors' alleged extent of usage for the names *V. gouldii* and *V. panoptes* is demonstrably false, making their application fundamentally flawed, and for this reason I oppose it.

2. The history of the taxonomy of the species originally described as *Varanus gouldii*, *V. panoptes* (a junior synonym of *gouldii*), and *V. flavirufus* (originally described as a subspecies of *gouldii*) is not in dispute and is summarised by Böhme (1991) and the authors of the application. In his 'Taxonomic notes on the status of *Varanus gouldii* and *V. panoptes*', Sprackland (1995) accurately summed up the taxonomy of *V. gouldii* as follows:

(i) Legal questions concerning the taxonomic validity of the names of monitor (goanna) lizard species in Australia require a status report on the taxonomic validity of the names in question, and an explanation of the reasons for that status. The two names involved are *Varanus gouldii* (Gray, 1838) and *Varanus panoptes* Storr, 1980. The taxonomic history of each name is provided, together with pertinent references to the International Code of Zoological Nomenclature (called 'the Code' below), which provides the internationally accepted standards for naming and use of names in zoological science.

(ii) *Varanus gouldii* was originally named by John Edward Gray in 1838. A single adult specimen (1030 mm) was prepared as a dry mount in the British Museum (Natural History), London, where it remains today. Gray placed the species in the genus *Hydrosaurus*, which was a preoccupied name for a genus of unrelated agamid lizards from Indonesia. Subsequently the species was placed in *Varanus*.

(iii) The designation of a specimen as a type was unusual until the 20th century, so Gray did not specify a name-bearing holotype for his new species. The Code specifically states that in the absence of a physical type, the specimen used to prepare an illustration serves as the type even if not specifically designated by the author, and the illustration itself becomes an ideotype.

(iv) German taxonomist Robert Mertens reviewed the Australian monitor lizards in 1958, and by comparing the illustration provided by Gray with catalogue entries and the mounted specimens in the BMNH, rediscovered the original specimen (BMNH 1946.9.7.61) and designated that lizard the lectotype. The Code allows designation of a lectotype when a series of animals used by an author to name a species does not include a single, published record for a holotype; a subsequent revision may then designate one of those animals as the single, name-bearing lectotype. Mertens' action was both justified and appropriate. Wolfgang Böhme of the Zoological Museum of Alexander Koenig, Bonn, Germany, and I have examined the lectotype and Gray's illustrations, and fully confirm that BMNH 1946.9.7.61 is the specimen used by Gray to name *Varanus gouldii*.

(v) It is important to note that a lectotype is chosen from among specimens that still exist and are known to have been examined by an original describer. Subsequently, they are not subject to replacement or invalidation by the Commission. Only a neotype is subject to review, and then only if the presumed lost holotype is later rediscovered. No neotypes were designated in describing any of the monitor lizards under discussion.

(vi) The name *Varanus panoptes* was used by Glenn Storr in 1980 to name a new species of Australian monitor. However, in so doing, Storr made the taxonomic error of not examining the types of related monitor species. The animals he named *Varanus panoptes* are actually the same as that named *Varanus gouldii*, and the Code specifically states that such a name can only be regarded as a junior synonym of the older name. The frequent subsequent use of the name *panoptes*, primarily by Australian authors, does not constitute valid grounds for suppressing the 132-year older name *gouldii*. Neither is *panoptes* retainable on the basis of common usage, as *gouldii* is a well-known, well-defined and long-used name.

(vii) Böhme (1991) provided a revised taxonomic list for the monitors in question:

Varanus panoptes panoptes
V. panoptes rubidus
V. panoptes horni
V. gouldii flavirufus

= *Varanus gouldii gouldii*
= *V. gouldii rubidus*

= *V. gouldii horni*
= *V. flavirufus*.

3. Nothing in the application changes the position as earlier stated (above) by its most senior author.

4. To avoid any ambiguity, throughout this comment the animal that the authors refer to as *panoptes* will here be discussed as *gouldii*, in line with Böhme (1991). The animal identified as *flavirufus* by Böhme is based on specimen number 53271 in the Natur-Museum Senckenberg, Frankfurt am Main, Germany. I refer to other authors' works in terms of animals identified and photographs of specimens, with particular emphasis on locality information given in those texts.

5. The name *panoptes* was used in error by Storr in 1980 when he described a monitor lizard, failing to realise that the same animal had been described some years earlier as *V. gouldii*. A number of authors (all of whom were cited by the authors of the application), in particular those from Western Australia, used the name *panoptes* to describe what had been known as *V. gouldii* over the following 16 years in various publications.

6. In 1991, Böhme published a paper showing that *panoptes* was a junior synonym of *gouldii* and therefore *panoptes* should not be used. As Böhme's paper became more widely known, usage of the name *panoptes* declined to reach the present situation where it is now hardly, if ever, used, while the original names *gouldii* and *flavirufus* for the related species have near universal usage.

7. Recent (post-1994) publications that have correctly used the names *gouldii* and *flavirufus* in the same publication, confirming their general usage, include Bennett (1995, 1996, 1998) and de Lisle (1996), which are probably the most widely circulated general books on varanids on the market. Notable is how these publications have also not used the incorrect name *panoptes* except as identifying it as the invalid junior synonym. Davie (1995), Hoser (1996a, 1996b; the latter with a circulation so far in excess of 6000 copies), also used *gouldii* and identified *panoptes* as a junior synonym. Other recent and widely circulated publications correctly identifying *gouldii* include Frauca (1973), Griffiths (1984), Schmida (1985), Greer (1997) and Lemm (1997). Combined, there are far more publications correctly adopting the name *V. gouldii* than the very few incorrectly using *V. panoptes*.

8. The only five known publications to have used the incorrect name of *panoptes* since 1994 were cited by the authors of the application. One of those, Steele (1996), indicated that the name *panoptes* is in dispute (p. 84), stating that some believe the name should be subsumed into *gouldii*. Böhme's (1991) publication was cited in the references of Steele's work. Card & Kluge (1995), while adopting *panoptes* rather than *gouldii*, noted that their view is not universally accepted. Therefore none of these authors can be taken to wholly support the position of the application. The CITES and threatened-reptile lists, produced by the World Conservation Monitoring Centre (1993, 1996) and referred to by the application authors, are nothing more than that, simply lists (where the name *panoptes* is used), and should be given little weight. While I concede that Switak (1996) incorrectly used the name *panoptes* to describe *gouldii*, the same publication, *Reptiles* magazine, has since published at least one other article (by Lemm, 1997) correctly identifying the same species as *gouldii*. Notable is that *Reptiles* has the largest circulation of any herpetological magazine or journal, making common

usage favor the retention of *gouldii* and *flavirufus*. Press, Brock & Andersen (1995), while using the name *panoptes* in favor of *gouldii*, did not publish this information in a widely circulated or herpetological publication, making its impact minimal, particularly when compared with the herpetological publications that have used the correct names. Thus it can be seen that any common usage argument for resurrecting *panoptes* based on recent (post-1994) publications is invalid.

9. Not only has Böhme's (1991) paper been widely circulated among herpetologists, including those likely to publish the name of the lizard presently known as *gouldii*, but so too have articles on the subject, based on Böhme's paper and subsequent failed litigation (Hoser, 1996a), which can be found and downloaded in full on high-usage websites on two internet servers, one active since late 1996 and the other since mid-1997.

10. The issue of *Reptilian* magazine which contained my article (Hoser, 1996a) was distributed by the Victorian Herpetological Society to all members as part of a promotion by the British publishers. The VHS membership exceeds 700 Australia-wide and includes the overwhelming majority of publishing herpetologists in Australia as well as institutions such as The Australian Museum, The University of Sydney, Melbourne Zoo, Australian Reptile Park, overseas members and others. The VHS has more members than all other professional and amateur herpetological societies in Australia combined. Over a thousand more copies of the same magazine were distributed in the USA and Europe. Therefore the fact that *panoptes* is an invalid name is commonly known and any attempt to reverse this would create immense confusion.

11. The application further argues that the name *flavirufus* is virtually unused for the lizards the authors seek to rename *gouldii*. That simply isn't true. Authors who have correctly used *flavirufus* include Bustard (1970), Worrell (1970), Hoser (1989), Böhme (1991), Sprackland (1992), Bennett (1995, 1996, 1998), de Lisle (1996) and Steele (1996). Included in this list are some of the most widely circulated publications on the subject spanning a period of nearly three decades. Most of these also have correctly captioned photographs of both forms.

12. In Australia and elsewhere junior synonyms, many of which are in widespread use, are routinely discarded by authors when the correct senior name becomes known. The herpetological community in Australia and elsewhere has had little trouble adapting to these name changes. A perusal of H.G. Cogger's benchmark books on Australian herpetology (Cogger, 1975, 1979, 1986 and 1992) feature changed names with such regularity that any possible common usage argument for maintaining the name *panoptes* simply has no credibility. Also see Cogger, Cameron & Cogger (1983) for details of now subsumed junior synonyms for Australian reptiles and amphibians, many of which previously had wide usage.

13. Cogger & Shea, in their comment supporting the application (BZN **55**: 106–111), have given 'evidence' in relation to the lectotype of *V. gouldii* that is largely speculative, not conclusive and therefore should be dismissed as far as this application is concerned.

14. I formally request that the application be rejected in total, with the current, valid and most widely used names *Varanus flavirufus* and *V. gouldii* being reaffirmed as the correct names for, respectively, the widespread species and that with the more disjunct range.

Acknowledgements

Brian Barnett, Shireen Borez, Neil Davie and Grant Turner provided various assistances.

Additional references

Bustard, H.R. 1970. *Australian lizards*. 162 pp. Collins (Australia), Sydney.

Cogger, H.G. 1975. *Reptiles and amphibians of Australia*. 584 pp. Reed, Terry Hills, New South Wales.

Cogger, H.G. 1979. *Reptiles and amphibians of Australia*, Ed. 2. 608 pp. Reed, Terry Hills, New South Wales.

Cogger, H.G. 1986. *Reptiles and amphibians of Australia*, Ed. 4. 688 pp. Reed, Frenchs Forest, New South Wales.

Davie, N. 1995. Editorial. *Pantherosaurus*, **1**(1): 13.

Frauca, H. 1973. *Australian reptile wonders*. 101 pp. Rigby, Adelaide.

Greer, G. 1997. Field Notes: Australia 1996. *Reptile and Amphibian Magazine*, **45**: 58–62.

Griffiths, K. 1984. *Reptiles and frogs of Australia*. 96 pp. View Productions, Sydney.

Hoser, R.T. 1989. *Australian reptiles and frogs*. ix, 238 pp. Pierson, Mosman, New South Wales.

Hoser, R.T. 1996a. Australia — land of goannas and bureaucrats. *Reptilian*, **4**(4): 7–21.

Hoser, R.T. 1996b. *Smuggled-2: wildlife trafficking, crime and corruption in Australia*. xx, 260 pp. Kotabi, Doncaster, Victoria.

Lemm, J. 1997. Reptile dreamtime. *Reptiles*, **5**(9): 32–45.

Schmida, G. 1985. *The cold-blooded Australians*. 208 pp. Doubleday, Sydney.

Sprackland, R. G. 1995. Taxonomic notes on the status of *Varanus gouldii* and *Varanus panoptes*. *Pantherosaurus*, **1**(1).

Worrell, E. 1970. *Reptiles of Australia*. xv, 169 pp. Angus & Robertson, Sydney.

(2) Anthea Gentry

ICZN Secretariat, c/o The Natural History Museum, London SW7 5BD, U.K.

Mr Hoser's comment (above) contains a number of factual errors or misinterpretations concerning both the Code and the application. These have been pointed out to Mr Hoser but he has requested that his comment be printed without alteration. Many of the errors relating to the Code originate in Sprackland's (1995) 'Taxonomic notes on the status of *Varanus gouldii* and *Varanus panoptes*' prepared for a Court case in Australia involving both these species, and quoted by Mr Hoser.

The points below are cited as they arise in Mr Hoser's text, following his paragraph numbers.

2(ii). There are many old specimens of *Varanus gouldii* in the collections of the Natural History Museum in London, not just a single specimen, but it is very difficult to ascertain which were present in 1838. The earliest catalogue is that of Gray (1845a) which contains material clearly collected after 1838.

2(iii). There is no Article in the Code stating that 'in the absence of a physical type, the specimen used to prepare an illustration serves as the type even if not specifically designated by the author, and the illustration becomes an ideotype', and the word 'ideotype' does not appear. Furthermore, Gray (1838) did not mention any specimens and his illustration was not published until some years later (1845b).

2(iv). By the time Gray's (1845b) illustration appeared there were a number of collections in the Natural History Museum. There is no certainty that the figured specimen is one studied by Gray in 1838. Shea & Cogger (BZN **55**: 106–111) have provided evidence that Mertens's (1958) designated specimen is unlikely to have been

an original specimen seen by Gray (1838) when he described *V. gouldii* and, if this is the case, the designation by Mertens (1958) of it as a lectotype is invalid.

2(v). There is no provision in the Code stating that a lectotype, once selected, is 'not subject to replacement or invalidation by the Commission. Only a neotype is subject to review, and then only if the presumed lost holotype is later rediscovered'. On the contrary, the Commission may use its plenary powers to set aside original type material and designate a neotype as a means of preserving the stability of usage of a name for a taxon.

2(vi). The species named *Varanus panoptes* by Storr (1980) is not taxonomically the same as the geographically widespread species long understood as *V. gouldii*. The application does not propose to 'suppress' the name *gouldii*, but rather to maintain *gouldii* for the widespread species and *panoptes* for the northern, more restricted, species.

3. In their application, as originally submitted in 1996, Sprackland et al. proposed that Böhme's (1991) nomenclatural arrangement be followed, and they asked the Commission to endorse this. However, Sprackland was then unaware that the status of type material could be set aside by the Commission (see 2(v) above) and, after correspondence, the revised application was published proposing the conservation of both the names *gouldii* and *panoptes* in the senses accorded them by the majority of authors. It was proposed that this should be effected by setting aside Mertens's (1958) lectotype designation and substituting an appropriate neotype of *V. gouldii*.

5. Storr's (1980) proposal of the name *V. panoptes* was for a distinct species, taxonomically separate from the widespread species known as *V. gouldii*. There was no need for him to examine the specimen proposed by Mertens as the lectotype of *V. gouldii*, although in the light of what has happened since it is unfortunate that he did not do so.

6–11. References were included in the application (para. 7) to demonstrate the continuing usages of *gouldii* and of *panoptes* as proposed by Storr. Another application, also to conserve the names *gouldii* and *panoptes* in their traditional senses, was submitted by G.M. Shea & H.G. Cogger only slightly later than that by Sprackland et al., and included extensive lists of references for both names. These lists consisted of 57 references for the use of *gouldii* since 1991, and 58 references for the use of *panoptes* since its publication (13 references from 1994 to 1996, when the list was compiled). It is not correct to say that 'as Böhme's paper became more widely known usage of the name *panoptes* declined to reach the 1997 situation where it is now hardly, if ever, used, while the original names *gouldii* [in the sense of the restricted species] and *flavirufus* for the related [widespread] species have near universal usage'.

Gray, J. E. 1845a. *Catalogue of the specimens of lizards in the British Museum.*

Gray, J. E. 1845b. *The zoology of the voyage of H.M.S.* Erebus & Terror, *under the command of Captain Sir James Ross, during the years 1839 to 1843.*

Comment on the proposed conservation of *Coluber infernalis* Blainville, 1835 and *Eutaenia sirtalis tetrataenia* Cope in Yarrow, 1875 (currently *Thamnophis sirtalis infernalis* and *T. s. tetrataenia*; Reptilia, Squamata): proposed conservation of the subspecific names by the designation of a neotype for *T. s. infernalis*
(Case 3012; see BZN **55**: 224–228)

Hobart M. Smith

Department of Environmental, Population and Organismic Biology, University of Colorado, Boulder, Colorado 80309–0334, U.S.A.

I am much interested in the application and wish to lend my support for the conservation of *Thamnophis sirtalis infernalis* (Blainville, 1835) and *T. s. tetrataenia* (Cope in Yarrow, 1875). The case involves the stability of usage of these names, and frequency of usage is the determining factor especially in the non-taxonomic literature (inasmuch as taxonomists are the guardians of nomenclatural communication through all aspects of biology, not just among taxonomists). The usage of *T. s. tetrataenia* for the San Francisco garter snake in non-taxonomic as well as taxonomic literature in the past several decades is so extensive that replacement by the name *infernalis* would clearly be pervasively confusing throughout the broad spectrum of usage the name enjoys (paras. 5 and 6 of the application). A switch of the meaning of the name *infernalis*, currently used for the more widely distributed California red-sided garter snake, would serve no useful purpose other than rectification of a long-standing, unwitting and until now unknown error of identification. That error would be rectified by the proposed action of the present application, without disturbing established nomenclatural custom. I therefore strongly recommend approval of the proposals.

Comments on the proposed conservation of usage of 15 mammal specific names based on wild species which are antedated by or contemporary with those based on domestic animals
(Case 3010: see BZN **53**: 28–37, 125, 192–200, 286–288; **54**: 119–129, 189; **55**: 43–46, 119–120)

(1) Nagy Szabolcs

University of Agriculture, Institute of Animal Breeding, H-9200 Mosonmagyaróvár, Vár u. 4, Hungary

I have read the application and comments with great interest.

As part of my job I give lectures to students on animal breeding, including domestication, and I am sure that the proposals for the use of names contained in the application will be very useful to me. I have found much confusion in the Hungarian literature, as elsewhere, in the use of Latin names for domestic animals and their ancestors. I will henceforth be following the use of names set out in the application.

(2) Alvaro Mones

Museo Nacional de Historia Natural, Casilla de Correo 399, 11000 Montevideo, Uruguay

I completely agree with the proposals in this application.

The only point on which I am a little doubtful is in the case of the guinea pig, *Cavia aperea* Erxleben, 1777. The systematics of caviids, and particularly of the genus *Cavia* Pallas, 1766, is in great need of revision. The name *C. aperea* is being applied to wild representatives with a very wide distribution, from northeastern Brazil to Uruguay and Argentina, although it is possible that different populations are not conspecific. As far as I know, it has not been demonstrated that *C. aperea* is the ancestor of the domestic form, *C. porcellus* (Linnaeus, 1758). The type locality of both forms is said

to be Pernambuco, Brazil, but it is well known that this does not have the same meaning as in the second half of the 18th century since it then referred to a much larger area than the Brazilian state known today (that is, it included at least the states Paraíba, Pernambuco, Alagoas and Sergipe). It is very uncertain that the domestic form comes from this region and I do not know of any Indian tribe there that had or has domesticated guinea pigs. At the moment I am not sure that we have the necessary information to resolve the problem of the origin of the domestic guinea pig. On the other hand, I think that the usage of the names *C. aperea* and *C. porcellus* for the wild and domestic forms of the guinea pig, as proposed in the application, is the best solution in our present understanding.

Comment on the proposed conservation of LORISIDAE Gray, 1821 and GALAGIDAE Gray, 1825 (Mammalia, Primates) as the correct original spellings
(Case 3004; see BZN **55**: 165–168)

D.W. Yalden

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I write as Managing Editor of *Mammal Review*.

I should like to express my support for this application. Although the correct derivation according to the Code of the family-group names LORISIDAE Gray, 1821 and GALAGIDAE Gray, 1825 (para. 3 of the application) has not been followed, the names as presented are indeed very familiar and well used throughout the zoological world. I note that deviations from grammatical correctness are frequently used to derive variant family names that would otherwise be homonyms. Reverting to the 'grammatically correct' names here would serve no useful purpose.

OPINION 1913

Pila Röding, 1798 and *Pomacea* Perry, 1810 (Mollusca, Gastropoda): placed on the Official List, and AMPULLARIIDAE Gray, 1824: confirmed as the nomenclaturally valid synonym of PILIDAE Preston, 1915

Keywords. Nomenclature; taxonomy; Gastropoda; *Pila*; *Pomacea*; *Ampullaria*; *Ampullarius*; AMPULLARIIDAE; PILIDAE; apple snails; agricultural pests.

Ruling

(1) It is hereby confirmed that the family-group name AMPULLARIIDAE Gray, 1824 is the nomenclaturally valid synonym of PILIDAE Preston, 1915.

(2) The following names are hereby placed on the Official List of Generic Names in Zoology:
   (a) *Pila* Röding, 1798 (gender: feminine) (senior objective synonym of *Ampullaria* Lamarck, 1799), type species by subsequent designation by Dall (1904) *Helix ampullacea* Linnaeus, 1758;
   (b) *Pomacea* Perry, 1810 (gender: feminine), type species by monotypy *Pomacea maculata* Perry, 1810.

(3) The following names are hereby placed on the Official List of Specific Names in Zoology:
   (a) *ampullacea* Linnaeus, 1758, as published in the binomen *Helix ampullacea* (specific name of the type species of *Pila* Röding, 1798);
   (b) *maculata* Perry, 1810, as published in the binomen *Pomacea maculata* (specific name of the type species of *Pomacea* Perry, 1810).

(4) The name AMPULLARIIDAE Gray, 1824, type genus *Ampullaria* Lamarck, 1799 (a junior objective synonym of *Pila* Röding, 1798), is hereby placed on the Official List of Family-Group Names in Zoology.

(5) The following names are hereby placed on the Official Index of Rejected and Invalid Generic Names in Zoology:
   (a) *Ampullaria* Lamarck, 1799 (a junior objective synonym of *Pila* Röding, 1798);
   (b) *Ampullarius* de Montfort, 1810 (an unjustified emendation of *Ampullaria* Lamarck, 1799 and a junior objective synonym of *Pila* Röding, 1798);

(6) The name PILIDAE Preston, 1915 is hereby placed on the Official Index of Rejected and Invalid Family-Group Names in Zoology (a junior objective synonym of AMPULLARIIDAE Gray, 1824 and invalid by the ruling given in (1) above).

History of Case 2996

An application to place *Pila* Röding, 1798 and *Pomacea* Perry, 1810 on the Official List as the valid names for, respectively, Old and New World genera of apple snails, and to confirm AMPULLARIIDAE Gray, 1824 as the valid family name, was received from Dr Robert H. Cowie (*Bishop Museum, Honolulu, Hawaii, U.S.A.*) on 15 August 1995. After correspondence the case was published in BZN **54**: 83–88 (June 1997). Notice of the case was sent to appropriate journals.

It was noted on the voting paper that there had been much and persistent confusion in the literature in the use of the family-group names AMPULLARIIDAE Gray, 1824 and PILIDAE Preston, 1915, and the generic names *Pila* Röding, 1798, *Ampullaria* Lamarck, 1799, *Pomacea* Perry, 1810 and *Ampullarius* Montfort, 1810. As apple snails were becoming increasingly serious pests, particularly in south-east Asia, it was important to establish unambiguous names for the family and the Old and New World groups of species. *Pila* and *Pomacea* were the senior names for the Old and New World genera respectively, and AMPULLARIIDAE was the senior name for the family; in each case the names had majority usage.

The application was offered for voting in two parts. Vote (1) was the proposal to place the generic names *Pila* and *Pomacea*, together with their respective type species, on Official Lists, and to place the junior objective synonyms *Ampullaria* and *Ampullarius* on the Official Index (proposals (2), (3) and (5) on BZN **54**: 86). Vote (2) was the proposal to place AMPULLARIIDAE on the Official List as the valid family-group name, and to place its junior objective synonym PILIDAE on the Official Index (proposals (1), (4) and (6) on BZN **54**: 86). Since the application sought the placing on the relevant Official Lists of the oldest generic and family-group names a simple majority would suffice in each case.

Decision of the Commission

On 1 September 1998 the members of the Commission were invited to vote on the proposals published in BZN **54**: 86. At the close of the voting period on 1 December 1998 the votes were as follows:

Vote 1. Affirmative votes — 18: Bock, Bouchet, Brothers, Cocks, Cogger, Eschmeyer, Kabata, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Štys

Negative votes — 2: Dupuis and Schuster.

Vote 2. Affirmative votes - 16: Bock, Bouchet, Brothers, Cocks, Eschmeyer, Kabata, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Schuster, Štys

Negative votes — 4: Cogger, Dupuis, Patterson and Savage.

No votes were received from Lehtinen, Kerzhner, Kraus and Song.

Heppell and Ride were on leave of absence.

Dupuis commented: 'Il est présomptueux de rejeter un nom dû à Lamarck (1799) et confirmé par lui en 1801 dans le chef-d'oeuvre classique de son *Système des animaux sans vertèbres*. Il est singulier de vouloir lui préférer un nom générique publié, sans diagnose et par un auteur obscur (P.F. Röding) dans un catalogue de vente ignoré durant 150 ans. Puisqu'il faut, bien entendu, conserver AMPULLARIIDAE, il serait contradictoire de supprimer *Ampullaria*. La proposition que je rejette n'a pas d'autre fondement que l'Opinion 96 laquelle, à mon avis, représente une faute comme toute Opinion qui adopte ou rejette en bloc un ouvrage alors que la Commission ne devrait s'occuper que de noms'.

Original references

The following are the original references to the names placed on Official Lists and Official Indexes by the ruling given in the present Opinion:

ampullacea, *Helix*, Linnaeus, 1758, *Systema Naturae*, Ed. 10, vol. 1, p. 771.

Ampullaria Lamarck, 1799, *Mémoires de la Société d'Histoire Naturelle de Paris*, **1**: 76.
AMPULLARIIDAE Gray, 1824, *Philosophical Magazine and Journal*, **63**(312): 276.
Ampullarius de Montfort, 1810, *Conchyliologie systématique, et classification méthodique des coquilles*, vol. 2, pp. 242 (fig.), 243 (text).
maculata, *Pomacea*, Perry, 1810, *Arcana; or the Museum of Natural History*, pl. 11 and text.
Pila Röding, 1798, *Museum Boltenianum*, part 2, p. 145.
PILIDAE Preston, 1915, *The fauna of British India, including Ceylon and Burma*. Mollusca, vol. 4 (Freshwater Gastropoda & Pelecypoda), p. 96.
Pomacea Perry, 1810, *Arcana; or the Museum of Natural History*, pl. 11 and text.

The following is the reference for the designation of *Helix ampullacea* Linnaeus, 1758 as the type species of the nominal genus *Pila* Röding, 1798:

Dall, W.H. 1904. *Journal of Conchology*, **11**(2): 53.

OPINION 1914

Belemnotheutis Pearce, 1842, *Geopeltis* Regteren Altena, 1949, *Geoteuthis* Münster, 1843, *Jeletzkyteuthis* Doyle, 1990, *Loligosepia* Quenstedt, 1839, *Parabelopeltis* Naef, 1921, *Paraplesioteuthis* Naef, 1921 (Mollusca, Coleoidea): conserved, and the specific name of *Belemnoteuthis* (sic) *montefiorei* Buckman, 1880: conserved

Keywords. Nomenclature; taxonomy; Cephalopoda; Coleoidea; Jurassic; *Belemnosepia*; *Belemnotheutis*; *Geopeltis*; *Geoteuthis*; *Jeletzkyteuthis*; *Loligosepia*; *Parabelopeltis*; *Paraplesioteuthis*; *Belemnoteuthis montefiorei*.

Ruling

(1) Under the plenary powers the following names are hereby suppressed for the purposes of the Principle of Priority but not for those of the Principle of Homonymy:
  (a) the generic names:
    (i) *Belemnosepia* Buckland & Agassiz in Buckland, 1836;
    (ii) *Atramentarius* Buckland & Agassiz in Buckland, 1838;
  (b) the specific name *belemnitoeides* Buckland, 1830, as published in the binomen *Orthoceras belemnitoeides*.

(2) The following names are hereby placed on the Official List of Generic Names in Zoology:
  (a) *Geopeltis* Regteren Altena, 1949 (gender: feminine), type species by original designation *Belopeltis simplex* Voltz, 1840;
  (b) *Geoteuthis* Münster, 1843 (gender: feminine), type species by subsequent designation by Bülow-Trummer (1920) *Loligo bollensis* Schübler in Zieten, 1832;
  (c) *Jeletzkyteuthis* Doyle, 1990 (gender: feminine), type species by original designation *Teudopsis agassizii* Eudes-Deslongchamps, 1835;
  (d) *Loligosepia* Quenstedt, 1839 (gender: feminine), type species by subsequent designation by Regteren Altena (1949) *Loligo aalensis* Schübler in Zieten, 1832;
  (e) *Parabelopeltis* Naef, 1921 (gender: feminine), type species by monotypy *Geoteuthis flexuosa*, Münster, 1843;
  (f) *Paraplesioteuthis* Naef, 1921 (gender: feminine), type species by original designation and monotypy *Geoteuthis sagittata* Münster, 1843;
  (g) *Belemnotheutis* Pearce, 1842 (gender: feminine), type species by subsequent monotypy by Pearce (1847) *Belemnoteuthis* (sic) *antiqua* Pearce, 1847.

(3) The following names are hereby placed on the Official List of Specific Names in Zoology:
  (a) *simplex* Voltz, 1840, as published in the binomen *Belopeltis simplex* (specific name of the type species of *Geopeltis* Regteren Altena, 1949);
  (b) *bollensis* Schübler in Zieten, 1832, as published in the binomen *Loligo bollensis* (specific name of the type species of *Geoteuthis* Münster, 1843);

(c) *agassizii* Eudes-Deslongchamps, 1835, as published in the binomen *Teudopsis agassizii* (specific name of the type species of *Jeletzkyteuthis* Doyle, 1990);

(d) *aalensis* Schübler in Zieten, 1832, as published in the binomen *Loligo aalensis* (specific name of the type species of *Loligosepia* Quenstedt, 1839);

(e) *flexuosa* Münster, 1843, as published in the binomen *Geoteuthis flexuosa* Münster, 1843 (specific name of the type species of *Parabelopeltis* Naef, 1921);

(f) *sagittata* Münster, 1843, as published in the binomen *Geoteuthis sagittata* (specific name of the type species of *Paraplesioteuthis* Naef, 1921);

(g) *montefiorei* Buckman, 1880, as published in the binomen *Belemnoteuthis montefiorei*;

(h) *antiqua* Pearce, 1847, as published in the binomen *Belemnoteuthis* (sic) *antiquus* [recte *antiqua*] (specific name of the type species of *Belemnotheutis* Pearce, 1842).

(4) The following names are hereby placed on the Official Index of Rejected and Invalid Generic Names in Zoology:

(a) *Belemnosepia* Buckland & Agassiz in Buckland, 1836, as suppressed in (1)(a)(i) above;

(b) *Atramentarius* Buckland & Agassiz in Buckland, 1838, as suppressed in (1)(a)(ii) above;

(c) *Belemnoteuthis* Pearce, 1847 (unavailable as an incorrect subsequent spelling of *Belemnotheutis*).

(5) The name *belemnitoeides* Buckland, 1830, as published in the binomen *Orthoceras belemnitoeides* and as suppressed in (1)(b) above, is hereby placed on the Official Index of Rejected and Invalid Specific Names in Zoology.

(6) The name BELEMNOSEPIIDAE Naef, 1921 is hereby placed on the Official Index of Rejected and Invalid Family-Group names in Zoology (invalid because the name of the type genus has been suppressed in (1)(a)(i) above).

History of Case 2987

An application for the conservation of six generic names for Jurassic coleoid cephalopods by the suppression of the unused name *Belemnosepia* Buckland & Agassiz in Buckland, 1836, and the conservation of the specific name of *Belemnoteuthis montefiorei* Buckman, 1880 by the suppression of *Orthoceras belemnitoeides* Buckland, 1830, was received from Dr T. Engeser (*Institut für Paläontologie, Freie Universität Berlin, Berlin, Germany*) and Prof D.T. Donovan (*University College London, London, U.K.*) on 19 May 1995. After correspondence the case was published in BZN **53**: 253–260 (December 1996). Notice of the case was sent to appropriate journals.

Comments in support of the application from Dr Peter Doyle (*University of Greenwich, Chatham Maritime, Kent, U.K.*) and from Dr R.A. Hewitt (*Leigh-on-Sea, Essex, U.K.*) were published in BZN **54**: 104 (June 1997).

A further comment in support from Dr W. Riegraf (*Münster, Germany*) was published in BZN **54**: 184–185 (September 1997). Dr Riegraf also proposed (BZN **54**: 185) that the name *Atramentarius* Buckland & Agassiz in Buckland, 1838 be suppressed to conserve *Belemnotheutis* Pearce, 1842, and that the original spelling of

Belemnotheutis, which had recently been adopted by Donovan & Crane (1992) and Riegraf (1995), be placed on the Official List.

In a reply published in BZN **55**: 29 (March 1998), the authors of the application supported Riegraf's additional proposals.

The case was offered for voting in two parts. Vote (1) related to conservation of the six generic names in use by the suppression of *Belemnosepia* Buckland & Agassiz in Buckland, 1836, conservation of the specific name of *Belemnoteuthis* (sic) *montefiorei* Buckman, 1880 by suppression of *Orthoceras belemnitoeides* Buckland, 1830, and suppression of *Atramentarius* (proposals on BZN **53**: 257 258 and items (1) and (4)(a) on BZN **54**: 185). Vote (2) related to the placement of *Belemnotheutis* Pearce, 1842, and the name of its type species *Belemnoteuthis* (sic) *antiqua* Pearce, 1847, on Official Lists (items (2), (3) and (4)(b) on BZN **54**: 185).

Decision of the Commission

On 1 September 1998 the members of the Commission were invited to vote on the proposals published in BZN **53**: 257–258 and **54**: 185. At the close of the voting period on 1 December 1998 the votes were as follows:

Vote 1. Affirmative votes — 19: Bock, Brothers, Cocks, Cogger, Dupuis (part), Eschmeyer, Kabata, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Schuster, Štys

Negative votes — 1: Bouchet.

Vote 2. Affirmative votes — 17: Bock, Brothers, Cocks, Cogger, Eschmeyer, Kabata, Macpherson, Mahnert, Martins de Souza, Mawatari, Nielsen, Nye, Papp, Patterson, Savage, Schuster, Štys (part)

Negative votes — 1: Bouchet.

Dupuis and Minelli abstained.

No votes were received from Lehtinen, Kerzhner, Kraus and Song.

Heppell and Ride were on leave of absence.

Bouchet commented: 'My reasons for voting against the application are threefold. (1) While I sympathize with the intent of the authors to stabilize the nomenclature and usage of a number of long-established names, the authors themselves noted (para. 6 of the application) 'the limited use of these names in recent years'. Moreover, the name *Jeletzkyteuthis* Doyle, 1990 had only been established for six years when the application was published and, in my view, hardly qualifies for conservation. (2) The Commission is asked to treat *Belemnoteuthis* as an incorrect subsequent spelling of *Belemnotheutis* when etymology, usage and consistency in formation of names ending in *-teuthis* all point to the opposite. (3) Finally, the Commission is asked to reject the name *Orthoceras belemnitoeides* Buckland, 1830 which 'has not been used for very many years' (but the application does not provide information on its actual usage), and to conserve the name *Belemnoteuthis montefiorei* Buckman, 1880 (and the application refers to 11 publications by nine authors to document its usage). I consider that the application contains insufficient information for an informed vote on this proposed suppression'. Dupuis voted for proposals (1)(a)-(b), (4), (5) and (6) on BZN **53**: 257 -258, but abstained from proposals (2) and (3) and also the proposals on BZN **54**: 185. Minelli abstained from proposals (2), (3) and (4) on BZN **54**: 185. Štys voted against proposal (4)(b) on BZN **54**: 185.

Original references

The following are the original references to the names placed on Official Lists and Official Indexes by the ruling given in the present Opinion:

aalensis, *Loligo*, Schübler, 1832, *in* Zieten, C.H. von, *Die Versteinerungen Württembergs, Expeditum des Werkes 'Unsere Zeit'*, part 5, p. 34.

agassizii, *Teudopsis*, Eudes-Deslongchamps, 1835, *Mémoires de la Société Linnéenne de Normandie*, **5**: 72.

antiqua, *Belemnoteuthis* (sic), Pearce, 1847, *London Geological Journal*, **2**: pls. 15–16.

Atramentarius Buckland & Agassiz, 1838, *in* Buckland, W., *Geologie und Mineralogie in Beziehung zur natürlichen Theologie*, vol. 2, pl. 44", fig. 7, footnote.

belemnitoeides, *Orthoceras*, Buckland, 1830, *Edinburgh New Philosophical Journal*, **8**: 23.

Belemnosepia Buckland & Agassiz, 1836, *in* Buckland, W., *Neues Jahrbuch für Mineralogie, Geognosie, Geologie und Petrefaktenkunde*, **1836**: 39.

BELEMNOSEPIIDAE Naef, 1921, *Fauna und Flora des Golfes von Neapel*, **35**: 47.

Belemnoteuthis Pearce, 1847, *London Geological Journal*, **2**: pls. 15–16.

Belemnotheutis Pearce, 1842, *Proceedings of the Geological Society of London*, **3**: 593.

bollensis, *Loligo*, Schübler, 1832, *in* Zieten, C.H. von, *Die Versteinerungen Württembergs, Expeditum des Werkes 'Unsere Zeit'*, part 5, p. 34.

flexuosa, *Geoteuthis*, Münster, 1843, *in* Münster, G. Graf zu, Meyer, H.V. & Wagner, R. (Eds.), *Beiträge zur Petrefacten-Kunde ...*, p. 75.

Geopeltis Regteren Altena, 1949, *Archives du Musée Teyler*, (3)**10**: 56.

Geoteuthis Münster, 1843, *in* Münster, G. Graf zu, Meyer, H.V. & Wagner, R. (Eds.), *Beiträge zur Petrefacten-Kunde ...*, p. 68.

Jeletzkyteuthis Doyle, 1990, *Palaeontology*, **33**: 198.

Loligosepia Quenstedt, 1839, *Neues Jahrbuch für Mineralogie, Geognosie, Geologie und Petrefaktenkunde*, **1839**: 163.

montefiorei, *Belemnoteuthis* (sic), Buckman, 1880, *Proceedings of the Dorset Natural History and Antiquarian Field Club*, **3**: 141.

Parabelopeltis Naef, 1921, *Mitteilungen aus der Zoologischen Station zu Neapel*, **22**: 534.

Paraplesioteuthis Naef, 1921, *Mitteilungen aus der Zoologischen Station zu Neapel*, **22**: 534.

sagittata, *Geoteuthis*, Münster, 1843, *in* Münster, G. Graf zu, Meyer, H.V. & Wagner, R. (Eds.), *Beiträge zur Petrefacten-Kunde ...*, p. 72.

simplex, *Belopeltis*, Voltz, 1840, *Mémoires de la Société du Muséum d'Histoire Naturelle de Strasbourg*, **3**: 23.

The following is the reference for the designation of *Loligo bollensis* Schübler in Zieten, 1832 as the type species of the nominal genus *Geoteuthis* Münster, 1843:

Bülow-Trummer, E. von. 1920. *Fossilium Catalogus 1: Animalia*, part 11 (Cephalopoda dibranchiata), p. 252.

The following is the reference for the designation of *Loligo aalensis* Schübler in Zieten, 1832 as the type species of the nominal genus *Loligosepia* Quenstedt, 1839:

Regteren Altena, C.O. van. 1949. *Archives du Musée Teyler*, (3)**10**: 58.

The following is the reference for the designation of *Belemnoteuthis* (sic) *antiqua* Pearce, 1847 as the type species of the nominal genus *Belemnotheutis* Pearce, 1842:

Pearce, J.C. 1847. *London Geological Journal*, **2**: pls. 15–16.

OPINION 1915

Suchonella Spizharsky, 1937 (Crustacea, Ostracoda): *Suchonella typica* Spizharsky, 1939 designated as the type species

Keywords. Nomenclature; taxonomy; Crustacea; Ostracoda; SUCHONELLOIDEA; Permian; Triassic; *Suchonella*; *Suchonella typica*.

Ruling

(1) Under the plenary powers all previous fixations of type species for the nominal genus *Suchonella* Spizharsky, 1937 are hereby set aside and *Suchonella typica* Spizharsky, 1939 is designated as the type species.

(2) The name *Suchonella* Spizharsky, 1937 (gender: feminine), type species by designation under the plenary powers in (1) above *Suchonella typica* Spizharsky, 1939, is hereby placed on the Official List of Generic Names in Zoology.

(3) The name *typica* Spizharsky, 1939, as published in the binomen *Suchonella typica* (specific name of the type species of *Suchonella* Spizharsky, 1937), is hereby placed on the Official List of Specific Names in Zoology.

History of Case 2954

An application for the designation of *Suchonella typica* Spizharsky, 1939 as the type species of *Suchonella* Spizharsky, 1937 was received from Dr I.G. Sohn (*U.S. Geological Survey, National Museum of Natural History, Smithsonian Institution, Washington, D.C., U.S.A.*) and Dr Iya I. Molostovskaya (*NJJ Geologii pri Saratovskom Gos. University, Saratov, Russia*) on 16 September 1994. After correspondence the case was published in BZN **54**: 152–154 (September 1997). Notice of the case was sent to appropriate journals.

Decision of the Commission

On 1 September 1998 the members of the Commission were invited to vote on the proposals published in BZN **54**: 153. At the close of the voting period on 1 December 1998 the votes were as follows:

Affirmative votes — 19: Bock, Bouchet, Brothers, Cocks, Cogger, Dupuis, Eschmeyer, Kabata, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Schuster

Negative votes — 1: Štys.

No votes were received from Lehtinen, Kerzhner, Kraus and Song.

Heppell and Ride were on leave of absence.

Original references

The following are the original references to the names placed on Official Lists by the ruling given in the present Opinion:

Suchonella Spizharsky, 1937. *Trudy Tsentral'nogo Nauchno-Issledovatel'skogo Geologo-Razvedochnogo Instituta* [*Transactions of the Central Geological Prospecting Institute*], **97**: 159. [In Russian, English summary].

Suchonella, typica, Spizharsky, 1939, *in* Likharev, B. (Ed.), *Atlas rukovodyashchikh form iskopaemykh faun SSSR* [*The atlas of the leading forms of the fossil fauna USSR*], vol. 6 (Permskaya Sistema, [Permian]), p. 194, pl. 46, fig. 6.

OPINION 1916

BRACHYPTERINAE Zwick, 1973 (Insecta, Plecoptera): spelling emended to BRACHYPTERAINAE, so removing the homonymy with BRACHYPTERINAE Erichson, [1845] (Insecta, Coleoptera); KATERETIDAE Erichson in Agassiz, [1846]: given precedence over BRACHYPTERINAE Erichson

Keywords. Nomenclature; taxonomy; Coleoptera; Plecoptera; beetles; stoneflies; *Kateretes*; *Brachypterus*; *Brachyptera*; KATERETIDAE; BRACHYPTERINAE; BRACHYPTERAINAE.

Ruling

(1) Under the plenary powers it is hereby ruled that:
  (a) for the purposes of Article 29 of the Code the stem of the generic name *Brachyptera* Newport, 1848 (Plecoptera) is BRACHYPTERA-;
  (b) the family-group name KATERETIDAE Erichson in Agassiz, [1846] and other family-group names based on *Kateretes* Herbst, 1793 are given precedence over BRACHYPTERINAE Erichson, [1845] and other family-group names based on *Brachypterus* Kugelann, 1794 (Coleoptera).

(2) The following names are hereby placed on the Official List of Generic Names in Zoology:
  (a) *Brachyptera* Newport, 1848 (gender: feminine), type species by subsequent designation by Frison (1929) *Nemoura trifasciata* Pictet, 1832 (Plecoptera);
  (b) *Kateretes* Herbst, 1793 (gender: masculine), type species by subsequent designation by Hope (1840) *Dermestes pedicularius* Linnaeus, 1758 (Coleoptera);
  (c) *Brachypterus* Kugelann, 1794 (gender: masculine), type species by subsequent designation by Thomson (1859) *Dermestes urticae* Fabricius, 1792 (Coleoptera).

(3) The following names are hereby placed on the Official List of Specific Names in Zoology:
  (a) *trifasciata* Pictet, 1832, as published in the binomen *Nemoura trifasciata* (specific name of the type species of *Brachyptera* Newport, 1848) (Plecoptera);
  (b) *pedicularius* Linaeus, 1758, as published in the binomen *Dermestes pedicularius* (specific name of the type species of *Kateretes* Herbst, 1793) (Coleoptera);
  (c) *urticae* Fabricius, 1792, as published in the binomen *Dermestes urticae* (specific name of the type species of *Brachypterus* Kugelann, 1794) (Coleoptera).

(4) The following names are hereby placed on the Official List of Family-Group Names in Zoology:
  (a) BRACHYPTERAINAE Zwick, 1973 (type genus *Brachyptera* Newport, 1848), spelling emended by the ruling in (1)(a) above (Plecoptera);

(b) KATERETIDAE Erichson in Agassiz, [1846] (type genus *Kateretes* Herbst, 1793) with the endorsement that it and other family-group names based on *Kateretes* are to be given precedence over BRACHYPTERINAE Erichson, [1845] (type genus *Brachypterus* Kugelann, 1794) and other family-group names based on *Brachypterus* whenever they are considered to be synonyms (Coleoptera);

(c) BRACHYPTERINAE Erichson, [1845] (type genus *Brachypterus* Kugelann, 1794), with the endorsement that it and other family-group names based on *Brachypterus* are not to be given priority over KATERETIDAE Erichson in Agassiz, [1846] (type genus *Kateretes* Herbst, 1793) and other family-group names based on *Kateretes* whenever they are considered to be synonyms (Coleoptera).

(5) The name BRACHYPTERINAE Zwick, 1973 is hereby placed on the Official Index of Rejected and Invalid Family-Group Names in Zoology (spelling emended to BRACHYPTERAINAE by the ruling in (1)(a) above) (Plecoptera).

History of Case 2865

The original application, received from Prof P.A. Audisio & Prof R. Fochetti (*Università degli Studi di Roma 'La Sapienza', Rome, Italy*) and Prof P. Zwick (*Limnologische Flussstation Schlitz des Max-Planck-Instituts für Limnologie, Schlitz, Germany*) on 26 October 1992 and published in BZN **51**: 309–311 (December 1994), sought to remove the homonymy between the coleopteran and plecopteran family-group names BRACHYPTERINAE Erichson, [1845] and BRACHYPTERINAE Zwick, 1973 (based on *Brachypterus* Kugelann, 1794 and *Brachyptera* Newport, 1848 respectively). It was proposed that Zwick's family-group name should be emended to BRACHYPTERAINAE.

In BZN **52**: 179–181 (June 1995) Prof Audisio supplemented the original proposals with one to give the coleopteran name KATERETIDAE (then cited with the authorship and date of 'Ganglbauer, 1899', but see below) precedence over BRACHYPTERINAE Erichson on the grounds that KATERETIDAE had had greater usage for the family-group taxon that includes both *Kateretes* Herbst, 1793 and *Brachypterus*. Prof Audisio also noted that Thomson's (1859) designation of *Dermestes urticae* Fabricius, 1792 as the type species of *Brachypterus* was earlier than that by Parsons (1943) cited in para. 1 of the original application.

In BZN **52**: 335–336 (December 1995) Prof Alfred F. Newton (*The Field Museum, Chicago, Illinois, U.S.A.*) opposed the additional proposal for priority reasons, pointing out that 'the name BRACHYPTERINAE Erichson has continued to be used occasionally for this group (see, for example, Hatch, 1961), although the name CATERETINAE or KATERETINAE has been used much more commonly during this period' [more than 50 years]. He noted that, in accordance with strict priority, the name BRACHYPTERINAE Erichson had been adopted in three recent publications (Lawrence & Britton, 1994; Pakaluk, Ślipiński & Lawrence, 1994; Lawrence & Newton, 1995).

A comment from Dr R.G. Booth (*International Institute of Entomology, c/o The Natural History Museum, London, U.K.*), published in BZN **53**: 47 (March 1996), followed that of Prof Newton in favouring the adoption of BRACHYPTERINAE Erichson as the valid name. Dr Booth also pointed out that the unused family-group name CERCIDAE Chenu & Desmarest, 1851 (based on *Cercus* Latreille, 1796, a junior

synonym of *Kateretes*) was earlier than KATERETIDAE (then attributed to Ganglbauer, 1899).

It was noted on the voting paper that in comments on the forthcoming 4th Edition of the Code, Prof Newton (in litt., May 1996) had made it clear that he had changed his view on priority in family-group names. He stated that he would have preferred to follow the proposed new provisions, which facilitate conservation of later names in current use, rather than resurrect earlier names. He again cited Lawrence & Newton (1995), in which names in use had been changed for priority reasons, and also Newton & Thayer (1992). He noted: 'Although most of the 116 name changes in Coleoptera family-group names required by the current Code have already been implemented by me or others, I would certainly have preferred not to make those that could have been avoided if the proposed new rules had been in effect. I do not think now that our strict adherence to current rules [i.e. strict priority] in these cases contributed anything useful to the long-term stability of these names. In fact the reverse is probably true: future workers must deal with two sets of names that have been used extensively in the literature, and the 'corrected' name is still subject to change as a result of further nomenclatural research or taxonomic changes'.

The application was sent for voting on 1 December 1997. Proposals for the removal of the homonymy between the coleopteran and plecopteran family-group names BRACHYPTERINAE (published in BZN **51**: 310), and for the precedence of the name KATERETIDAE over BRACHYPTERINAE Erichson (published in BZN **52**: 180) were offered separately for voting.

In addition it was proposed that KATERETIDAE (then attributed to Ganglbauer, 1899) should be given precedence over the unused name CERCIDAE Chenu & Desmarest, 1851 in order to allow it to remain in valid use for a family or subfamily regardless of its precedence in relation to BRACHYPTERINAE Erichson, [1845].

The Commission approved the proposal to remove the homonymy between BRACHYPTERINAE Erichson, [1845] (Coleoptera) and BRACHYPTERINAE Zwick, 1973 (Plecoptera). The proposal for the name KATERETIDAE to take precedence over BRACHYPTERINAE Erichson received a majority (14 votes in favour, eight votes against) but failed to reach the required two-thirds majority for approval.

Two Commissioners commented on their voting papers. In relation to the proposed precedence of KATERETIDAE over BRACHYPTERINAE Erichson, Brothers noted: 'Had the proposals in BZN **52**: 180 not been pre-empted by the adoption of priority in the general works dealing with coleopteran family-group names cited by Prof Newton, their approval would have been appropriate. However, these works are likely to be used for clarification, and approval of the relevant proposals now would be likely to cause even greater confusion'. In relation to the proposed precedence of KATERETIDAE over CERCIDAE Chenu & Desmarest, 1851, Kerzhner commented: 'A Commission ruling on this proposal is unnecessary. Two works have been overlooked by the applicants and commentators on this case. Agassiz ([1846], p. 30) cited both the generic name '*Cateretes* Herbst ...' and, in the type face used for suprageneric names, 'CATERETES ... *Cateretes*. Nitidulariae'. The generic name is given here as valid and is clearly indicated as the basis of the family-group name, so the latter is available from this work. The unusual form of the family-group name (CATERETES, the nominative plural of the generic name) was commonly used in other names by authors of that period and does not contravene the Code. The title page of

the work states (translation from Latin) 'reviewed and numerous names added by Guil. F. Erichson', and it is clear that Erichson was responsible for taxonomic decisions in this work and hence the authorship of KATERETIDAE should be credited to Erichson in Agassiz ([1846]). Agassiz ([1847], p. 68) gave essentially the same information as in [1846] but used CATERETAE as the spelling of the family-group name. The type species of *Kateretes* (as *Cateretes*), *Dermestes pedicularius* Linnaeus, 1758, was designated by Hope (1840, p. 155)'.

Under the Bylaws the proposal to conserve the name KATERETIDAE by giving it precedence over BRACHYPTERINAE Erichson required a revote. Completion of the voting on this proposal would allow an Opinion to be published combined with that on the removal of the homonymy between BRACHYPTERINAE Erichson and BRACHYPTERINAE Zwick. The name KATERETIDAE was attributed to Erichson in Agassiz ([1846]), in place of Ganglbauer (1899) as previously cited, and the proposal to give KATERETIDAE precedence over CERCIDAE Chenu & Desmarest, 1851, approved by the Commissioners in the first vote, was omitted as it was not necessary.

Additional references

Agassiz, L. [1846]. *Nomenclator zoologicus*, fasc. 11 (Nomina systematica generum Coleopterorum tam viventium quam fossilium). xii, 170 pp. Soloduri.

Agassiz, L. [1847]. *Nomenclatoris zoologici index universalis*. x, 1135 pp. Soloduri. (The dates of Agassiz's works were set out in pp. x–xi, 1 of Nye, I.W.B. (Ed.). 1979. *The generic names of moths of the world*, vol. 3).

Hope, F.W. 1840. *The coleopterist's manual*, part 3. 191 pp. Bridgewater, London.

Newton, A.F. Jr. & Thayer, M.K. 1992. Current classification and family-group names in Staphyliniformia (Coleoptera). *Fieldiana* (Zoology, n.s.)**67**: 1–92.

Decision of the Commission

On 1 December 1997 the members of the Commission were invited to vote on the proposals to remove the homonymy between the coleopteran and plecopteran family-group names BRACHYPTERINAE (published in BZN **51**: 310). At the close of the voting period on 1 March 1998 the votes were as follows:

Affirmative votes — 20: Bock, Bouchet, Brothers, Cocks, Eschmeyer, Heppell, Kabata, Kerzhner, Kraus, Lehtinen, Macpherson, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Štys, Song

Negative votes — 2: Mahnert and Savage.

No votes were received from Dupuis and Schuster.

Cogger and Ride were on leave of absence.

On 1 December 1997 the Commissioners had also been asked to give the name KATERETIDAE precedence over BRACHYPTERINAE Erichson (published in BZN **52**: 180); however, this proposal did not receive the necessary two-thirds majority. On 1 September 1998 they were invited to revote on a revised version of this proposal. At the close of the voting period on 1 December 1998 the votes were as follows:

Affirmative votes — 16: Bock, Cocks, Cogger, Eschmeyer, Kabata, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Schuster

Negative votes — 3: Bouchet, Brothers and Štys.

No votes were received from Dupuis, Lehtinen, Kerzhner, Kraus and Song.

Heppell and Ride were on leave of absence.

Original references

The following are the original references to the names placed on Official Lists and an Official Index by the ruling given in the present Opinion:

Brachyptera Newport, 1848, *Proceedings of the Linnean Society, London*, **1**: 388.

BRACHYPTERAINAE Zwick, 1973, *Das Tierreich*, **94**: 308 (incorrectly spelled as BRACHYPTERINAE).

BRACHYPTERINAE Erichson, [1845], *Naturgeschichte der Insecten Deutschlands*, Abt. 1 (Coleoptera), vol. 3, p. 125.

BRACHYPTERINAE Zwick, 1973, *Das Tierreich*, **94**: 308 (an incorrect original spelling of BRACHYPTERAINAE).

Brachypterus Kugelann, 1794, *Neuestes Magazin für Liebhaber der Entomologie*, **1**(5): 560.

Kateretes Herbst, 1793, *Natursystem aller bekannten in- und ausländischen Insecten . . .*, p. 11.

KATERETIDAE Erichson in Agassiz, [1846], *Nomenclator zoologicus*, fasc. 11, p. 30.

pedicularius, *Dermestes*, Linnaeus, 1758, *Systema Naturae*, Ed. 10, vol. 1, p. 357.

trifasciata, *Nemoura*, Pictet, 1832, *Annales des Sciences Naturelles*, **26**: 379.

urticae, *Dermestes*, Fabricius, 1792, *Entomologia Systematica*, vol. 1, part 1, p. 235.

The following is the reference for the designation of *Nemoura trifasciata* Pictet, 1832 as the type species of *Brachyptera* Newport, 1848:

Frison, T.H. 1929. *Bulletin of the Illinois State Natural History Survey*, **18**: 373.

The following is the reference for the designation of *Dermestes pedicularius* Linnaeus, 1758 as the type species of *Kateretes* Herbst, 1793:

Hope, F.W. 1840. *The coleopterist's manual*, part 3, p. 155.

The following is the reference for the designation of *Dermestes urticae* Fabricius, 1792 as the type species of the nominal genus *Brachypterus* Kugelann, 1794:

Thomson, C.G. 1859. *Skandinaviens Coleoptera synoptiskt bearbetade*, vol. 1, p. 67.

OPINION 1917

Papilio camillus Fabricius, 1781 (currently *Cyrestis camillus*) and *Limenitis reducta* Staudinger, 1901 (Insecta, Lepidoptera): specific names conserved

Keywords. Nomenclature; taxonomy; Lepidoptera; butterflies; NYMPHALIDAE; LYCAENIDAE; *Azanus isis*; *Cyrestis camillus*; *Limenitis reducta*.

Ruling

(1) Under the plenary powers the following specific names are hereby suppressed:
   (a) *camillus* Cramer, [1780], as published in the binomen *Papilio camillus*, and all uses of that name prior to the publication of *Papilio camillus* Fabricius, 1781, for the purposes of both the Principle of Priority and the Principle of Homonymy;
   (b) *sibilla* Linnaeus, 1767, as published in the binomen *Papilio sibilla*, for the purposes of the Principle of Priority but not for those of the Principle of Homonymy.

(2) The name *camillus* Fabricius, 1781, as published in the binomen *Papilio camillus*, is hereby placed on the Official List of Specific Names in Zoology.

(3) To the entry on the Official List of Specific Names in Zoology for *reducta* Staudinger, 1901, as published in the trinomen *Limenitis camilla reducta*, is hereby added a record of the present ruling.

(4) The entry on the Official List of Specific Names in Zoology for the specific name of *Papilio camilla* Linnaeus is hereby emended to record the date of publication as 1764 and to record that it is the type species of *Ladoga* Moore, [1898].

(5) The following names are hereby placed on the Official Index of Rejected and Invalid Specific Names in Zoology:
   (a) *camillus* Cramer, [1780], as published in the binomen *Papilio camillus* and as suppressed in (1)(a) above;
   (b) *sibilla* Linnaeus, 1767, as published in the binomen *Papilio sibilla* and as suppressed in (1)(b) above.

History of Case 3002

An application for the conservation of the specific names of *Papilio camillus* Fabricius, 1781 and *Limenitis reducta* Staudinger, 1901 was received from Dr Torben B. Larsen (*London, U.K.*) on 10 November 1995. After correspondence the case was published in BZN **54**: 155–158 (September 1997). Notice of the case was sent to appropriate journals.

It was noted on the voting paper that support for the application had been received from Mr Philip Ackery and from Mr Jim Reynolds, both of *The Natural History Museum, London, U.K.* Mr Ackery had written: 'I think there will be wide agreement that this is the sensible course in both instances: *Cyrestis camillus* (Fabricius, 1781) and *Limenitis reducta* Staudinger, 1901 should be conserved'.

The name *Limenitis reducta* Staudinger, 1901 was placed on the Official List in Opinion 562 (April 1959). However, the senior synonym *Papilio sibilla* Linnaeus,

1767 was not then suppressed because of a mistaken interpretation of the history of this name (see BZN **54**: 156–157). The name *Papilio camilla* Linnaeus, 1764 was placed on the Official List in the same Opinion with the date of publication incorrectly cited as '1763'.

Decision of the Commission

On 1 September 1998 the members of the Commission were invited to vote on the proposals published in BZN **54**: 157. At the close of the voting period on 1 December 1998 the votes were as follows:

Affirmative votes — 20: Bock, Bouchet, Brothers, Cocks, Cogger, Dupuis, Eschmeyer, Kabata, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Schuster, Štys

Negative votes — none.

No votes were received from Lehtinen, Kerzhner, Kraus and Song.

Heppell and Ride were on leave of absence.

Original references

The following are the original references to the names placed on an Official List and an Official Index, and to the addition and emendation to the entries on the Official List for *Limenitis reducta* Staudinger, 1901 and *Papilio camilla* Linaeus, 1764 respectively, by the ruling given in the present Opinion:

camillus, Papilio, Cramer, [1780], *De uitlandsche Kapellan voorkomende in de drie Waereld-deelen Asia, Africa en America*, vol. 4, part 25, p. 20.

camillus, Papilio, Fabricius, 1781, *Species Insectorum* ..., vol. 2, p. 11.

camilla, Papilio, Linnaeus, 1764, *Museum S:ae R:ae M:tis Ludovicae Ulricae* ..., part 1 (Insecta), p. 304.

reducta, Limenitis camilla, Staudinger, 1901, *in* Staudinger, O. & Rebel, H., *Catalog der Lepidopteren des Palaearctischen Faunengebietes*, Ed. 3, Theil 1 (Famil. Papilionidae — Hepialidae), p. 22.

sibilla, Papilio, Linnaeus, 1767, *Systema Naturae*, Ed. 12, vol. 1, part 2, p. 781.

OPINION 1918

MELOIDAE Gyllenhal, 1810 and NEMOGNATHINAE Castelnau, 1840 (Insecta, Coleoptera): given precedence over HORIIDAE Latreille, 1802

Keywords. Nomenclature; taxonomy; Coleoptera; blister beetles; MELOIDAE; NEMOGNATHINAE; HORIIDAE; ZONITIDINAE.

Ruling

(1) Under the plenary powers it is hereby ruled that the family-group names MELOIDAE Gyllenhal, 1810 and other family-group names based on *Meloe* Linnaeus, 1758 and NEMOGNATHINAE Castelnau, 1840 and other family-group names based on *Nemognatha* Illiger, 1807 are to be given precedence over HORIIDAE Latreille, 1802 and other family-group names based on *Horia* Fabricius, 1787 whenever they are considered to be synonyms.

(2) The following names are hereby placed on the Official List of Generic Names in Zoology:
   (a) *Meloe* Linnaeus, 1758 (gender: masculine), type species by subsequent designation by Latreille (1810) *Meloe proscarabaeus* Linnaeus, 1758;
   (b) *Nemognatha* Illiger, 1807 (gender: feminine), type species by monotypy *Zonitis vittata* Fabricius, 1801;
   (c) *Horia* Fabricius, 1787 (gender: feminine), type species by subsequent designation by Betrem (1929) *Horia fabriciana* Betrem, 1929;
   (d) *Zonitis* Fabricius, 1775 (gender: feminine), type species by subsequent designation by Selander (1987) *Zonitis flava* Fabricius, 1775.

(3) The following names are hereby placed on the Official List of Specific Names in Zoology:
   (a) *proscarabaeus* Linnaeus, 1758, as published in the binomen *Meloe proscarabaeus* (specific name of the type species of *Meloe* Linnaeus, 1758);
   (b) *vittata* Fabricius, 1801, as published in the binomen *Zonitis vittata* (specific name of the type species of *Nemognatha* Illiger, 1807);
   (c) *fabriciana* Betrem, 1929, as published in the binomen *Horia fabriciana* (specific name of the type species of *Horia* Fabricius, 1787);
   (d) *flava* Fabricius, 1775, as published in the binomen *Zonitis flava* (specific name of the type species of *Zonitis* Fabricius, 1775).

(4) The following names are hereby placed on the Official List of Family-Group Names in Zoology:
   (a) MELOIDAE Gyllenhal, 1810 (type genus *Meloe* Linnaeus, 1758), with the endorsement that it and other family-group names based on *Meloe* are to be given precedence over HORIIDAE Latreille, 1802 and other family-group names based on *Horia* Fabricius, 1787 whenever they are considered to be synonyms;
   (b) NEMOGNATHINAE Castelnau, 1840 (type genus *Nemognatha* Illiger, 1807), with the endorsement that it and other family-group names based on *Nemognatha* are to be given precedence over HORIIDAE Latreille, 1802 and other family-group names based on *Horia* Fabricius, 1787 whenever they are considered to be synonyms;

(c) HORIIDAE Latreille, 1802 (type genus *Horia* Fabricius, 1787), with the endorsement that it and other family-group names based on *Horia* are not to be given priority over MELOIDAE Gyllenhal, 1810 and other family-group names based on *Meloe* Linnaeus, 1758 or NEMOGNATHINAE Castelnau, 1840 and other family-group names based on *Nemognatha* Illiger, 1807 whenever they are considered to be synonyms;

(d) ZONITIDINAE Mulsant, 1857 (type genus *Zonitis* Fabricius, 1775) (correct original spelling of ZONITINAE).

(5) The name ZONITINAE Mulsant, 1857 is hereby placed on the Official Index of Rejected and Invalid Family-Group Names in Zoology (incorrect original spelling of ZONITIDINAE).

History of Case 2924

An application for the family-group names MELOIDAE Gyllenhal, 1810 and NEMOGNATHINAE Castelnau, 1840 to be given precedence over HORIIDAE Latreille, 1802 was received from Prof M.A. Bologna (*Università degli Studi Roma Tre, Rome, Italy*) and Dr J.D. Pinto (*University of California, Riverside, California, U.S.A.*) on 4 January 1994. After correspondence the case was published in BZN **54**: 226–230 (December 1997). Notice of the case was sent to appropriate journals.

Decision of the Commission

On 1 September 1998 the members of the Commission were invited to vote on the proposals published in BZN **54**: 228–229. At the close of the voting period on 1 December 1998 the votes were as follows:

Affirmative votes — 19: Bock, Bouchet (part), Brothers, Cocks, Cogger, Eschmeyer, Kabata, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Schuster, Štys

Negative votes — none.

No votes were received from Dupuis, Lehtinen, Kerzhner, Kraus and Song.

Heppell and Ride were on leave of absence.

Bouchet voted for proposals (2), (3), (4)(d) and (5) but against proposals (1) and (4)(a)-(c). He considered that priority should apply in this case.

Original references

The following are the original references to the names placed on Official Lists and an Official Index by the ruling given in the present Opinion:

fabriciana, *Horia*, Betrem, 1929, *Tijdschrift voor Entomologie*, **72**: xxvii.

flava, *Zonitis*, Fabricius, 1775, *Systema Entomologiae* ..., p. 127.

Horia Fabricius, 1787, *Mantissa Insectorum*, part 1, p. 164.

HORIIDAE Latreille, 1802, *Histoire naturelle, générale et particulière des crustacés et des insectes* ..., vol. 3, p. 182.

Meloe Linnaeus, 1758, *Systema Naturae*, Ed. 10, vol. 1, p. 419.

MELOIDAE Gyllenhal, 1810, *Insecta Suecica descripta. Classis I. Coleoptera sive Eleutherata. Pars II*, p. 481.

Nemognatha Illiger, 1807, *Magazin für Insektenkunde*, vol. 6, p. 333.

NEMOGNATHINAE Castelnau, 1840, *Histoire naturelle des animaux articulés*, part 2, p. 280.

proscarabaeus, *Meloe*, Linnaeus, 1758, *Systema Naturae*, Ed. 10, vol. 1, p. 430.

vittata, *Zonitis*, Fabricius, 1801, *Systema Eleutheratorum*, vol. 2, p. 24.

ZONITIDINAE Mulsant, 1857, *Histoire naturelle des Coléoptères de France. Vésicants*, p. 164 (incorrectly spelled as ZONITINAE).

ZONITINAE Mulsant, 1857, *Histoire naturelle des Coléoptères de France. Vésicants*, p. 164 (an incorrect original spelling of ZONITIDINAE).
Zonitis Fabricius, 1775, *Systema Entomologiae* ..., p. 126.

The following is the reference for the designation of *Meloe proscarabaeus* Linnaeus, 1758 as the type species of the nominal genus *Meloe* Linnaeus, 1758:

Latreille, P.A. 1810. *Considérations générales sur l'ordre naturel des animaux composant les classes des crustacés, des arachnides, et des insectes*, p. 419.

The following is the reference for the designation of *Horia fabriciana* Betrem, 1929 as the type species of the nominal genus *Horia* Fabricius, 1787:

Betrem, J.C. 1929. *Tijdschrift voor Entomologie*, **72**: xxvii.

The following is the reference for the designation of *Zonitis flava* Fabricius, 1775 as the type species of the nominal genus *Zonitis* Fabricius, 1775:

Selander, R.B. 1987. *Deutsche Entomologische Zeitschrift*, (n.s.)**34**: 341.

OPINION 1919

Polyrhachis Smith, 1857 (Insecta, Hymenoptera): given precedence over *Myrma* Billberg, 1820

Keywords. Nomenclature; taxonomy; Hymenoptera; FORMICIDAE; ants; *Polyrhachis*; *Myrma*.

Ruling

(1) Under the plenary powers the generic name *Polyrhachis* Smith, 1857 is hereby given precedence over *Myrma* Billberg, 1820 whenever the two names are considered to be synonyms.

(2) The following names are hereby placed on the Official List of Generic Names in Zoology:

(a) *Polyrhachis* Smith, 1857 (gender: feminine), type species by original designation *Formica bihamata* Drury, 1773, with the endorsement that it is to be given precedence over the name *Myrma* Billberg, 1820 whenever the two names are considered to be synonyms;

(b) *Myrma* Billberg, 1820 (gender: feminine), type species by subsequent designation by Wheeler (1911) *Formica militaris* Fabricius, 1781, with the endorsement that it is not to be given priority over the name *Polyrhachis* Smith, 1857 whenever the two names are considered to be synonyms.

(3) The following names are hereby placed on the Official List of Specific Names in Zoology:

(a) *bihamata* Drury, 1773, as published in the binomen *Formica bihamata* (specific name of the type species of *Polyrhachis* Smith, 1857);

(b) *militaris* Fabricius, 1781, as published in the binomen *Formica militaris* (specific name of the type species of *Myrma* Billberg, 1820).

History of Case 3009

An application for the conservation of the generic name *Polyrhachis* Smith, 1857 by giving it precedence over *Myrma* Billberg, 1820 was received from Dr Wolfgang H.O. Dorow (*Forschungsinstitut Senckenberg, Frankfurt am Main, Germany*), Dr Rudolf J. Kohout (*Queensland Museum, South Brisbane, Queensland, Australia*) and Dr Robert W. Taylor (*Australian National Insect Collection, CSIRO, Canberra, Australia*) on 12 December 1995. After correspondence the case was published in BZN **54**: 236–241 (December 1997). Notice of the case was sent to appropriate journals.

Decision of the Commission

On 1 September 1998 the members of the Commission were invited to vote on the proposals published in BZN **54**: 238–239. At the close of the voting period on 1 December 1998 the votes were as follows:

Affirmative votes — 19: Bock, Bouchet, Brothers, Cocks, Cogger, Eschmeyer, Kabata, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Schuster, Štys

Negative votes — none.

No votes were received from Dupuis, Lehtinen, Kerzhner, Kraus and Song.

Heppell and Ride were on leave of absence.

Original references

The following are the original references to the names placed on Official Lists by the ruling given in the present Opinion:

bihamata, *Formica*, Drury, 1773, *Illustrations of natural history; wherein are exhibited ... figures of exotic insects*, vol 2, p. 73, index.

militaris, *Formica*, Fabricius, 1781, *Species Insectorum* ..., vol. 1, p. 493.

Myrma Billberg, 1820, *Enumeratio Insectorum in Museo Gust. Joh. Billberg*, p. 104.

Polyrhachis Smith, 1857, *Journal of the Proceedings of the Linnean Society, Zoology*, **2**: 58.

The following is the reference for the designation of *Formica militaris* Fabricius, 1781 as the type species of the nominal genus *Myrma* Billberg, 1820:

Wheeler, W.M. 1911. *Science*, (n.s.)**33**: 859.

OPINION 1920

Strongylopus Tschudi, 1838 (Amphibia, Anura): *Rana fasciata* Smith, 1849 designated as the type species

Keywords. Nomenclature; taxonomy; Amphibia; Anura; RANIDAE; frogs; *Strongylopus*; *Strongylopus fasciatus*; *Strongylopus grayii*; Southern Africa; East Africa.

Ruling

(1) Under the plenary powers all previous fixations of type species for the nominal genus *Strongylopus* Tschudi, 1838 are hereby set aside and *Rana fasciata* Smith, 1849 is designated as the type species.

(2) The name *Strongylopus* Tschudi, 1838 (gender: masculine), type species by designation under the plenary powers in (1) above *Rana fasciata* Smith, 1849, is hereby placed on the Official List of Generic Names in Zoology.

(3) To the entry on the Official List of Specific Names in Zoology for the name *fasciata* Smith, 1849, as published in the binomen *Rana fasciata* and as defined by the lectotype (specimen no. BMNH 58.11.25.127 in the collections of the Natural History Museum, London) designated in Opinion 713 (November 1964), is hereby added the endorsement that it is the specific name of the type species of *Strongylopus* Tschudi, 1838.

History of Case 2361

An application for the designation of a type species for *Strongylopus* Tschudi, 1838 was first received from Prof Alain Dubois (*Muséum National d'Histoire Naturelle, Paris, France*) on 10 September 1980. After correspondence over a number of years the case for the designation of *Rana fasciata* Smith, 1849 as the type species was published in BZN **54**: 162 166 (September 1997). Notice of the case was sent to appropriate journals.

It was noted on the voting paper that support for the application had been received from Prof J.L. Poynton (*The Natural History Museum, London, U.K.*; formerly of *University of Natal, Pietermaritzburg, South Africa*). The case was also supported by Dr Barry Clarke (*The Natural History Museum, London, U.K.*).

Rana fasciata Burchell, 1824 (perhaps a synonym of *Strongylopus grayii* (Smith, 1849)) and all uses of the name *Rana fasciata* prior to that by Smith (1849) were suppressed for both priority and homonymy in Opinion 713 (November 1964). At that time *Strongylopus* Tschudi, 1838 was regarded as a junior synonym of *Rana* Linnaeus, 1758 and a valid name for the type species of *Strongylopus* was not then considered.

Decision of the Commission

On 1 September 1998 the members of the Commission were invited to vote on the proposals published in BZN **54**: 164. At the close of the voting period on 1 December 1998 the votes were as follows:

Affirmative votes 19: Bock, Bouchet, Brothers, Cocks, Cogger, Dupuis, Eschmeyer, Kabata, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Schuster

Negative votes — 1: Štys.
No votes were received from Lehtinen, Kerzhner, Kraus and Song.
Heppell and Ride were on leave of absence.

Original references

The following are the original references to the name *Strongylopus* Tschudi, 1838 placed on the Official List, and to the endorsement for *Rana fasciata* Smith, 1849 on the Official List, by the ruling given in the present Opinion:

fasciata, Rana, Smith, 1849, *Illustrations of the zoology of South Africa. Reptilia*, pl. 78, text.
Strongylopus Tschudi, 1838, *Mémoires de la Société des Sciences Naturelles de Neuchâtel*, **2**: 38, 78–79. (Issued in the serial in [1839] but published as a separate in 1838).

The following is the reference for the designation of the lectotype of *Rana fasciata* Smith, 1849:

International Commission on Zoological Nomenclature. 1964. Opinion 713. BZN **21**: 352.

OPINION 1921

PETROPEDETINAE Noble, 1931, CACOSTERNINAE Noble, 1931 and PHRYNOBATRACHINAE Laurent, 1941 (Amphibia, Anura): given precedence over HEMIMANTIDAE Hoffmann, 1878, and PHRYNOBATRACHINAE: not given precedence over PETROPEDETINAE

Keywords. Nomenclature; taxonomy; Amphibia; Anura; RANIDAE; frogs; HEMIMANTIDAE; PHRYNOBATRACHINAE; PETROPEDETINAE; CACOSTERNINAE; *Phrynobatrachus*; *Petropedetes*; *Cacosternum*; *Hemimantis*; Africa.

Ruling

(1) Under the plenary powers it is hereby ruled that the family-group name PETROPEDETINAE Noble, 1931 and other family-group names based on *Petropedetes* Reichenow, 1874, CACOSTERNINAE Noble, 1931 and other family-group names based on *Cacosternum* Boulenger, 1887, and PHRYNOBATRACHINAE Laurent, 1941 and other family-group names based on *Phrynobatrachus* Günther, 1862, are given precedence over HEMIMANTIDAE Hoffmann, 1878 and other family-group names based on *Hemimantis* Peters, 1863.

(2) The following names are hereby placed on the Official List of Generic Names in Zoology:
   (a) *Petropedetes* Reichenow, 1874 (gender: masculine), type species by monotypy *Petropedetes cameronensis* Reichenow, 1874;
   (b) *Cacosternum* Boulenger, 1887 (gender: neuter), type species by monotypy *Cacosternum nanum* Boulenger, 1887;
   (c) *Phrynobatrachus* Günther, 1862 (gender: masculine), type species by monotypy *Phrynobatrachus natalensis* Günther, 1862 (a junior subjective synonym of *Stenorhynchus natalensis* A. Smith, 1849);
   (d) *Hemimantis* Peters, 1863 (gender: masculine), type species by monotypy *Hemimantis calcaratus* Peters, 1863.

(3) The following names are hereby placed on the Official List of Specific Names in Zoology:
   (a) *cameronensis* Reichenow, 1874, as published in the binomen *Petropedetes cameronensis* (specific name of the type species of *Petropedetes* Reichenow, 1874);
   (b) *nanum* Boulenger, 1887, as published in the binomen *Cacosternum nanum* (specific name of the type species of *Cacosternum* Boulenger, 1887);
   (c) *natalensis* A. Smith, 1849, as published in the binomen *Stenorhynchus natalensis* (senior subjective synonym of *Phrynobatrachus natalensis* Günther, 1862, the type species of *Phrynobatrachus* Günther, 1862);
   (d) *calcaratus* Peters, 1863, as published in the binomen *Hemimantis calcaratus* (specific name of the type species of *Hemimantis* Peters, 1863).

(4) The following names are hereby placed on the Official List of Family-Group Names in Zoology:
   (a) PETROPEDETINAE Noble, 1931 (type genus *Petropedetes* Reichenow, 1874) with the endorsement that it and other family-group names based on

Petropedetes are to be given precedence over HEMIMANTIDAE Hoffmann, 1878 (type genus *Hemimantis* Peters, 1863) and other family-group names based on *Hemimantis* and (by the first reviser action of Dubois, 1982) over CACOSTERNINAE Noble, 1931 (type genus *Cacosternum* Boulenger, 1887) and other family-group names based on *Cacosternum* whenever they are considered to be synonyms;

(b) CACOSTERNINAE Noble, 1931 (type genus *Cacosternum* Boulenger, 1887) with the endorsement that it and other family-group names based on *Cacosternum* are to be given precedence over HEMIMANTIDAE Hoffmann, 1878 (type genus *Hemimantis* Peters, 1863) and other family-group names based on *Hemimantis* but are not to be given priority over PETROPEDETINAE Noble, 1931 (type genus *Petropedetes* Reichenow, 1874) and other family-group names based on *Petropedetes* whenever they are considered to be synonyms;

(c) PHRYNOBATRACHINAE Laurent, 1941 (type genus *Phrynobatrachus* Günther, 1862) with the endorsement that it and other family-group names based on *Phrynobatrachus* are to be given precedence over HEMIMANTIDAE Hoffmann, 1878 (type genus *Hemimantis* Peters, 1863) and other family-group names based on *Hemimantis* whenever they are considered to be synonyms;

(d) HEMIMANTIDAE Hoffmann, 1878 (type genus *Hemimantis* Peters, 1863) with the endoresement that it and other family-group names based on *Hemimantis* are not to be given priority over PETROPEDETINAE Noble, 1931 (type genus *Petropedetes* Reichenow, 1874) and other family-group names based on *Petropedetes*, CACOSTERNINAE Noble, 1931 (type genus *Cacosternum* Boulenger, 1887) and other family-group names based on *Cacosternum*, and PHRYNOBATRACHINAE Laurent, 1941 (type genus *Phrynobatrachus* Günther, 1862) and other family-group names based on *Phrynobatrachus* whenever they are considered to be synonyms.

(5) The following names are hereby placed on the Official Index of Rejected and Invalid Generic Names in Zoology:

(a) *Stenorhynchus* A. Smith, 1849 (a junior homonym of *Stenorhynchus* Hemrich, 1820);

(b) *Leptoparius* Peters, 1863 (a junior objective synonym of *Stenorhynchus* A. Smith, 1849).

History of Case 2362

An application for the conservation of the family-group name PHRYNOBATRACHINAE Laurent, 1941 by giving it precedence over HEMIMANTIDAE Hoffmann, 1878, PETROPEDETINAE Noble, 1931 and CACOSTERNINAE Noble, 1931 was received from Prof Alain Dubois (*Muséum National d'Histoire Naturelle, Paris, France*). After correspondence the case was published in BZN **51**: 240–246 (September 1994). Notice of the case was sent to appropriate journals.

A comment in support of the application from Prof J.C. Poynton (*The Natural History Museum, London, U.K.*; formerly of *University of Natal, Pietermaritzburg, South Africa*) was published in BZN **52**: 269–270 (September 1995).

A comment from Dr Darrel R. Frost (*American Museum of Natural History, New York, N.Y., U.S.A.*) & Prof Jay M. Savage (*University of Miami, Coral Gables, Florida,*

U.S.A.), published in BZN **52**: 270–271, supported the proposal to give the names PETROPEDETINAE, CACOSTERNINAE and PHRYNOBATRACHINAE precedence over the unused name HEMIMANTIDAE, but opposed the conservation of PHRYNOBATRACHINAE by giving it precedence over PETROPEDETINAE. They proposed (BZN **52**: 270–271) that where the latter two names were concerned priority should be followed. Comments from Dr Barry T. Clarke (*The Natural History Museum, London, U.K.*) and from the author of the application, published in BZN **52**: 342–345 (December 1995), supported the application and gave reasons for rejecting the precedence of PETROPEDETINAE over PHRYNOBATRACHINAE put forward by Frost & Savage.

The application was sent to the Commission for voting on 1 September 1996. Precedence of PETROPEDETINAE, CACOSTERNINAE and PHRYNOBATRACHINAE over the earliest but unused name HEMIMANTIDAE had been advocated by the author of the application (BZN **51**: 240–246, **52**: 344–345) and also by those who commented (Poynton, Frost & Savage, and Clarke). This proposal was put forward for voting as Proposal A.

Conservation of the name PHRYNOBATRACHINAE for a family-group taxon that includes both *Phrynobatrachus* and *Petropedetes* by giving it precedence over PETROPEDETINAE (Proposal B), and adoption of PETROPEDETINAE as the senior name for the same taxon (Proposal C), were offered as alternatives for voting. Proposal B was put forward by Dubois (BZN **51**: 243–244); Proposal C was that of Frost & Savage (BZN **52**: 270–271).

The Commission approved Proposal A. A majority of Commissioners voted in favour of Proposal B rather than Proposal C (11 votes for Proposal B and 10 for Proposal C; five Commissioners did not vote), but Proposal B failed to reach the required two-thirds majority for approval.

Two Commissioners commented on their voting papers. Cogger noted: 'I agree with all the proponents in this case that there is a need to give precedence to the family-group names PETROPEDETINAE Noble, 1931 and PHRYNOBATRACHINAE Laurent, 1941 over the unused senior name HEMIMANTIDAE Hoffmann, 1878 (Proposal A). While I have cast the remainder of my vote in this case for Proposal C, I should make it clear that in doing so I was not persuaded by the arguments of Frost & Savage - arguments convincingly rejected by Prof Dubois (BZN **52**: 344–345). Conversely, the arguments presented by Prof Dubois and Dr Clarke failed to persuade me that, following the elimination from contention of the unused HEMIMANTIDAE, priority should not otherwise apply. This end is effectively achieved by adoption of Proposal C'. Heppell commented: 'As HEMIMANTIDAE has never been used as valid, it should not now threaten any family names proposed later (Proposal A). I am happy to let the remaining family names take precedence according to their natural priority and thus vote for PETROPEDETINAE to be placed on the Official List without endorsement against PHRYNOBATRACHINAE (Proposal C)'.

Under the Bylaws the proposal to conserve the name PHRYNOBATRACHINAE Laurent, 1941 by giving it precedence over PETROPEDETINAE Noble, 1931 (Proposal B), against that to adopt PETROPEDETINAE as the senior name (Proposal C), required a revote. Completion of the voting on this proposal would allow an Opinion to be published combined with the ruling giving HEMIMANTIDAE least priority.

It was noted on the voting papers that, as stated in para. 9 of the application, Article 40 of the Code does not apply in this case and insertions of the date '(1878)'

against the names PETROPEDETINAE Noble, 1931, CACOSTERNINAE Noble, 1931 and PHRYNOBATRACHINAE Laurent, 1941 (paras. 9, 9(1) and 10(4)(a)-(c)) would be incorrect. The date 1878 has not been cited for these names in this Opinion.

Decision of the Commission

On 16 September 1996 the members of the Commission were invited to vote on the proposals to give the family-group names PETROPEDETINAE Noble, 1931, CACOSTERNINAE Noble, 1931 and PHRYNOBATRACHINAE Laurent, 1941 precedence over HEMIMANTIDAE Hoffmann, 1878 (published in BZN **51**: 244 and **52**: 270–271; Proposal A). At the close of the voting period on 16 December 1996 the votes were as follows:

Affirmative votes — 20: Bock, Brothers, Cocks, Cogger, Eschmeyer, Heppell, Kerzhner, Kraus, Lehtinen, Macpherson, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Song, Štys

Negative votes — 4: Bouchet, Kabata, Mahnert and Schuster.

Dupuis abstained.

Ride was on leave of absence.

On 16 September 1996 the Commissioners had also been invited to give the name PHRYNOBATRACHINAE precedence over PETROPEDETINAE (published in BZN **51**: 243–244; Proposal B) against that to adopt PETROPEDETINAE as the senior name (published in BZN **52**: 270–271; Proposal C); however, this proposal did not receive the necessary two-thirds majority and on 1 September 1998 they were invited to revote on proposals B and C. At the close of this voting period on 1 December 1998 the votes were as follows:

Proposal B — 10: Bouchet, Cocks, Kabata, Macpherson, Martins de Souza, Mawatari, Minelli, Nye, Papp, Schuster

Proposal C — 10: Bock, Brothers, Cogger, Eschmeyer, Kerzhner, Mahnert, Nielsen, Patterson, Savage and Štys.

No votes were received from Dupuis, Lehtinen, Kraus and Song.

Heppell and Ride were on leave of absence.

The Commission approved the proposal to give the family-group names PETROPEDETINAE Noble, 1931, CACOSTERNINAE Noble, 1931 and PHRYNOBATRACHINAE Laurent, 1941 precedence over HEMIMANTIDAE Hoffman, 1878, but since there was no majority for PHRYNOBATRACHINAE to be given precedence over PETROPEDETINAE priority applies to these two names. The name PETROPEDETINAE has precedence over CACOSTERNINAE Noble, 1931 by the first reviser action of Dubois (1982).

Original references

The following are the original references to the names placed on Official Lists and an Official Index by the ruling given in the present Opinion:

CACOSTERNINAE Noble, 1931, *The biology of the Amphibia*, p. 540.

Cacosternum Boulenger, 1887, *Annals and Magazine of Natural History*, (5)**20**: 51.

calcaratus, *Hemimantis*, Peters, 1863, *Monatsberichte der Königlichen Preussischen Akademie der Wissenschaften zu Berlin*, **1863**: 452. (Issued in the serial in 1864 but published as a separate in 1863).

cameronensis, *Petropedetes*, Reichenow, 1874, *Archiv für Naturgeschichte*, **40**(1.3): 290.

HEMIMANTIDAE Hoffmann, 1878, *in* Bronn, H.G., *Die Klassen und Ordnungen des Thier-Reichs wissenschaftlich dargestellt in Wort und Bild*, vol. 6, part 2, pp. 613, 635.

Hemimantis Peters, 1863, *Monatsberichte der Königlichen Preussischen Akademie der Wissenschaften zu Berlin*, **1863**: 451.

Leptoparius Peters, 1863, *Monatsberichte der Königlichen Preussischen Akademie der Wissenschaften zu Berlin*, **1863**: 452.

nanum, *Cacosternum*, Boulenger, 1887, *Annals and Magazine of Natural History*, (5)**20**: 52.

natalensis, *Stenorhynchus*, A. Smith, 1849, *Illustrations of the zoology of South Africa* ... Reptilia, Appendix, pp. 23–24.

Petropedetes Reichenow, 1874, *Archiv für Naturgeschichte*, **40**(1.3): 290.

PETROPEDETINAE Noble, 1931, *The biology of the Amphibia*, p. 520.

PHRYNOBATRACHINAE Laurent, 1941, *Revue de Zoologie et de Botanique Africaines*, **34**(2): 192.

Phrynobatrachus Günther, 1862, *Proceedings of the Zoological Society of London*, **1862**: 190.

Stenorhynchus A. Smith, 1849, *Illustrations of the zoology of South Africa* ... Reptilia, Appendix, pp. 23–24.

The following is the reference for the first reviser action giving the family-group name PETROPEDETINAE Noble, 1931 precedence over CACOSTERNINAE Noble, 1931:

Dubois, A. 1982. BZN **39**: 136.

OPINION 1922

Loris E. Geoffroy Saint-Hilaire, 1796 (Mammalia, Primates): conserved, and correction made to the entry for *Choloepus* Illiger, 1811 (Xenarthra) on the Official List

Keywords. Nomenclature; taxonomy; Mammalia; Primates; Xenarthra; LORISIDAE; slender loris; two-toed sloths; *Loris*; *Loris tardigradus*; *Choloepus*; Sri Lanka; India; South and Central America.

Ruling

(1) Under the plenary powers the name *Tardigradus* Boddaert, 1785 is hereby suppressed for the purposes of the Principle of Priority but not for those of the Principle of Homonymy.

(2) The name *Loris* E. Geoffroy Saint-Hilaire, 1796 (gender: masculine), type species (under Article 67h of the Code) by subsequent designation by Illiger (1811) *Lemur tardigradus* Linnaeus, 1758, is hereby placed on the Official List of Generic Names in Zoology.

(3) The name *tardigradus* Linnaeus, 1758, as published in the binomen *Lemur tardigradus* and as defined by the lectotype (specimen no. NRM 532011 in the Swedish Museum of Natural History, Stockholm) designated by Gentry, Groves & Jenkins (1998) (specific name of the type species of *Loris* E. Geoffroy Saint-Hilaire, 1796), is hereby placed on the Official List of Specific Names in Zoology.

(4) The following names are hereby placed on the Official Index of Rejected and Invalid Generic Names in Zoology:
   (a) *Tardigradus* Boddaert, 1785, as suppressed in (1) above;
   (b) *Stenops* Illiger, 1811 (a junior objective synonym of *Loris* E. Geoffroy Saint-Hilaire, 1796);
   (c) *Loridium* Rafinesque, 1815 (a junior objective synonym of *Loris* E. Geoffroy Saint-Hilaire, 1796).

(5) The entry on the Official List of Generic Names in Zoology for *Choloepus* Illiger, 1811 is hereby emended to record *Bradypus didactylus* Linnaeus, 1758 as the type species by subsequent designation by Gray (1827).

History of Case 2953

An application for the conservation of *Loris* E. Geoffroy Saint-Hilaire, 1796 was received from Mrs Anthea Gentry (*c/o The Secretariat, ICZN, The Natural History Museum, London, U.K.*), Dr Colin P. Groves (*Australian National University, Canberra, Australia*), the late Mr J.E. Hill, and Dr Paulina D. Jenkins (*The Natural History Museum, London, U.K.*) on 8 July 1994. The case was published in BZN **51**: 332–335 (December 1994). Notice of the case was sent to appropriate journals.

It was noted on the voting paper that, when Brisson's (1762) work entitled *Regnum Animale in classes IX distributum* ..., Ed. 2, was rejected for nomenclatural purposes in Opinion 1894 (March 1998), Brisson's name *Tardigradus* for the sloths was not one of the 11 mammal generic names which were then conserved (the names *Bradypus*

Linnaeus, 1758 and *Choloepus* Illiger, 1811 are currently in use for the three- and two-toed sloths respectively). As a result of Opinion 1894 *Tardigradus* Boddaert, 1785, previously treated as a junior homonym of *Tardigradus* Brisson, 1762, would become the valid name for the slender loris, long called *Loris* E. Geoffroy Saint-Hilaire, 1796. The application proposed the conservation of the name *Loris* by suppression of *Tardigradus* Boddaert.

A comment in support of the application from Dr R.H. Crompton (*University of Liverpool, Liverpool, U.K.*) was published in BZN **52**: 193 (June 1995).

Further information on the type material of *Lemur tardigradus* Linnaeus, 1758, the type species of *Loris* (para. 4 of the application), was supplied by three authors of the application (Gentry, Groves & Jenkins) in BZN **55**: 118–119 (June 1998), who designated a specimen now in Stockholm as the lectotype.

These authors also proposed (BZN **55**: 119) an emendation to the entry on the Official List for the authorship and date of the designation of the type species of *Choloepus* Illiger, 1811. The name *Choloepus* and that of its type species, *Bradypus didactylus* Linnaeus, 1758, were placed on Official Lists in Opinion 91 (October 1926) and Direction 22 (November 1955) respectively. However, the type designation was recorded (Direction 24, November 1955) as subsequent designation by Miller & Rehn (1901), and not by the earlier designation of Gray (1827).

Decision of the Commission

On 1 September 1998 the members of the Commission were invited to vote on the proposals published in BZN **51**: 334 and **55**: 119. At the close of the voting period on 1 December 1998 the votes were as follows:

Affirmative votes — 20: Bock, Bouchet, Brothers, Cocks, Cogger, Dupuis (part), Eschmeyer, Kabata, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Schuster, Štys

Negative votes — none.

Dupuis voted for proposals (1) and (4)(a) on BZN **51**: 334 but otherwise abstained.

No votes were received from Lehtinen, Kerzhner, Kraus and Song.

Heppell and Ride were on leave of absence.

Original references

The following are the original references to the names placed on Official Lists and an Official Index, and to the emended entry on the Official List for *Choloepus* Illiger, 1811, by the ruling given in the present Opinion:

Choloepus Illiger, 1811, *Prodromus systematis Mammalium et Avium* ..., p. 108.

Loridium Rafinesque, 1815, *Analyse de la nature*, p. 54.

Loris E. Geoffroy Saint-Hilaire, 1796, *Magasin Encyclopédique, ou journal des sciences, des lettres et des arts*, (2)**1**(1): 48, 49.

Stenops Illiger, 1811, *Prodromus systematis Mammalium et Avium* ..., p. 73.

Tardigradus Boddaert, 1785, *Elenchus Animalium*, vol. 1 (Sistens Quadrupedia), pp. 43, 67.

tardigradus, *Lemur*, Linnaeus, 1758, *Systema Naturae*, Ed. 10, vol. 1, p. 29.

The following is the reference for the designation of *Lemur tardigradus* Linnaeus, 1758 as the type species of the nominal genus *Loris* E. Geoffroy Saint-Hilaire, 1796:

Illiger, C. 1811. *Prodromus systematis Mammalium et Avium* ..., p. 73.

The following is the reference for the designation of *Bradypus didactylus* Linnaeus, 1758 as the type species of the nominal genus *Choloepus* Illiger, 1811:

Gray, J.E. 1827. Synopsis of the species of the Class Mammalia .... Vol. 5 *in* Griffith, E., Smith, C.H. & Pidgeon, E. (Eds.), *The animal kingdom arranged in conformity with its organisation, by the Baron Cuvier ...*, p. 275.

The following is the reference for the designation of the lectotype of *Lemur tardigradus* Linnaeus, 1758:

Gentry, A., Groves, C.P. & Jenkins, P.D. 1998. BZN **55**: 119.

INFORMATION AND INSTRUCTIONS FOR AUTHORS

The following notes are primarily for those preparing applications; other authors should comply with the relevant sections. Applications should be prepared in the format of recent parts of the Bulletin; manuscripts not prepared in accordance with these guidelines may be returned.

General. Applications are requests to the Commission to set aside or modify the Code's provisions as they relate to a particular name or group of names when this appears to be in the interest of stability of nomenclature. Authors submitting cases should regard themselves as acting on behalf of the zoological community and the Commission will treat applications on this basis. Applicants are advised to discuss their cases with other workers in the same field before submitting applications, so that they are aware of any wider implications and the likely reactions of other zoologists.

Text. Typed in double spacing, this should consist of numbered paragraphs setting out the details of the case and leading to a final paragraph of formal proposals. Text references should give dates and page numbers in parentheses, e.g. 'Daudin (1800, p. 39) described . . .'. The Abstract will be prepared by the Secretariat.

References. These should be given for all authors cited. Where possible, ten or more relatively recent references should be given illustrating the usage of names which are to be conserved or given precedence over older names. The title of periodicals should be in full and be underlined; numbers of volumes, parts, etc. should be in arabic figures, separated by a colon from page numbers. Book titles should be underlined and followed by the number of pages and plates, the publisher and place of publication.

Submission of Application. Two copies should be sent to: The Executive Secretary, The International Commission on Zoological Nomenclature, c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. It would help to reduce the time that it takes to process the large number of applications received if the typescript could be accompanied by a disk with copy in IBM PC compatible format, preferably in ASCII text. It would also be helpful if applications were accompanied by photocopies of relevant pages of the main references where this is possible.

The Commission's Secretariat is very willing to advise on all aspects of the formulation of an application.

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BULLETIN OF ZOOLOGICAL NOMENCLATURE

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Notices

(a) *Invitation to comment.* The Commission is authorised to vote on applications published in the *Bulletin of Zoological Nomenclature* six months after their publication but this period is normally extended to enable comments to be submitted. Any zoologist who wishes to comment on any of the applications is invited to send his contribution to the Executive Secretary of the Commission as quickly as possible.

(b) *Invitation to contribute general articles.* At present the *Bulletin* comprises mainly applications concerning names of particular animals or groups of animals, resulting comments and the Commission's eventual rulings (Opinions). Proposed amendments to the Code are also published for discussion.

Articles or notes of a more general nature are actively welcomed provided that they raise nomenclatural issues, although they may well deal with taxonomic matters for illustrative purposes. It should be the aim of such contributions to interest an audience wider than some small group of specialists.

(c) *Receipt of new applications.* The following new applications have been received since going to press for volume 56, part 1 (published on 31 March 1999). Under Article 80 of the Code, existing usage is to be maintained until the ruling of the Commission is published.

(1) *Laqueus* Dall, 1870 (Brachiopoda): proposed designation of *L. erythraeus* Dall, 1920 as the type species. (Case 3110). D.I. MacKinnon & S.L. Long.

(2) *Pachycerianthus* (Cnidaria, Anthozoa): proposed designation of *P. multiplicatus* Carlgren, 1912 as the type species. (Case 3111). E. Kelly & B.F. Keegan.

(3) ROSSELLIDAE Schulze, 1885 (Porifera, Hexactinellida): proposed precedence over ASCONEMATIDAE Gray, 1872 and CRATEROMORPHIDAE Gray, 1872. (Case 3112). K.R. Tabachnick.

(4) *Betta splendens* Regan, 1910, *B. smaragdina* Ladiges, 1972 and *B. imbellis* Ladiges, 1975 (Osteichthyes, Perciformes): proposed conservation of the specific names by the suppression of *Micracanthus marchei* Sauvage, 1878. (Case 3113). H.H. Tan & P.K.L. Ng.

(5) *Kunzella* Young, 1952 (Insecta, Homoptera): proposed designation of *Dikraneura pseudomarginella* Caldwell, 1952 as the type species. (Case 3114). P.H. Freytag.

(6) *Gnomulus* Thorell, 1890 (Arachnida, Opiliones): proposed designation of *G. sumatranus* Thorell, 1891 as the type species. (Case 3116). J. Martens & P. Schwendinger.

(7) *Plinthus* Germar, 1817 (Insecta, Coleoptera): proposed designation of *Curculio megerlei* Panzer, [1804] as the type species; and *Otiorhynchus* Germar, 1824: proposed emendation of the entry on the Official List of Generic Names. (Case 3117). M.A. Alonso-Zarazaga & C.H.C. Lyal.

(8) *Anthaxia* Eschscholtz, 1829 (Insecta, Coleoptera): proposed designation of *Buprestis nitida* Rossi, 1794 as the type species. (Case 3118). S. Bílý.

(9) VACHONIAINAE Maury, 1973 (Arachnida, Scorpiones): proposed conservation as the correct spelling. (Case 3119). V. Fet & M.E. Braunwalder.

(10) ISCHNURAINAE Fraser, 1957 (Insecta, Odonata): proposed conservation as the correct spelling of ISCHNURINAE to remove homonymy with ISCHNURIDAE Simon, 1879 (Arachnida, Scorpiones). (Case 3120). V. Fet & G. Bechly.

(11) *Holochilus* Brandt, 1835, *Proechimys* Allen, 1899 and *Trinomys* Thomas, 1921 (Mammalia, Rodentia): proposed conservation by the designation of *Holochilus sciureus* Wagner, 1842 as the type species of *Holochilus*. (Case 3121). R.S. Voss & N.I. Abramson.

(12) *Mixosaurus cornalianus* Bassani, 1886 (Reptilia, Ichthyosauria): proposed designation of a replacement neotype. (Case 3122). W. Brinkmann.

(13) DOLICHOPODIDAE Latreille, 1809 (Insecta, Diptera) and DOLICHOPODINI Brunner von Wattenwyl, 1888 (Insecta, Grylloptera): proposed removal of the homonymy. (Case 3123). S.D. Skareas & S.E. Brooks.

(14) *Apis proava* Menge, 1856 (currently *Electrapis proava*; Insecta, Hymenoptera): proposed conservation by the designation of a neotype. (Case 3124). M.S. Engel.

(15) *Rhinoncus* Schönherr, 1825 (Insecta, Coleoptera): proposed conservation. (Case 3125). E. Colonnelli.

(16) *Bulinus wrighti* Mandahl-Barth, 1965 (Mollusca, Gastropoda): proposed conservation of the specific name. (Case 3126). D.S. Brown, F. Naggs & V.R. Southgate.

(17) *Bothrops caribbaeus* Garman, 1887 (currently *Trigonocephalus caribbaeus*; Reptilia, Serpentes): proposed conservation of the specific name. (Case 3127). W. Wüster.

(d) *Rulings of the Commission*. Each Opinion published in the *Bulletin* constitutes an official ruling of the International Commission on Zoological Nomenclature, by virtue of the votes recorded, and comes into force on the day of publication of the *Bulletin*.

The International Code of Zoological Nomenclature

The new and extensively revised 4th Edition of the *International Code of Zoological Nomenclature* will be published in September 1999. It will come into effect on 1 January 2000 and will entirely supersede the current (1985) edition. Some notes about the forthcoming edition, which contains many new provisions, will be found on the Commission's Website (www.iczn.org).

The price of the 4th Edition is £40 or $65; the following discounts are offered:

Individual members of a scientific society ordering one copy of the Code for personal use are offered a discount of 25% (price £30 or $48); the name and address of the society should be given.

Individual members of the American or European Associations for Zoological Nomenclature ordering one copy of the Code for personal use are offered a discount of 40% (price £24 or $39).

Postgraduate or undergraduate students ordering one copy for personal use are offered a discount of 25% (price £30 or $48); the name and address of the student's supervisor should be given.

Institutions or agents buying 5 or more copies are offered a 25% discount (price £30 or $48 for each copy).

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Copies for delivery in September may be ordered now from ITZN, c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk) or from AAZN, Attn. D. G. Smith, MRC-159, National Museum of Natural History, Washington, D.C. 20560-0159, U.S.A. (e-mail: smithd@nmnh.si.edu).

Payment should accompany orders. Cheques should be made out to "ITZN" (sterling or dollars) or to "AAZN" (dollars only). Payment to ITZN can also be made by credit card (Visa or MasterCard only) giving the cardholder's number, name and address and the expiry date.

Individual purchasers of the Code are offered a 50% discount on one copy of the following publications for personal use:

The Official Lists and Indexes of Names and Works in Zoology (1985) — reduced from £60 to £30 and from $110 to $55;

Towards Stability in the Names of Animals — a History of the International Commission on Zoological Nomenclature 1895–1995 (1995) — reduced from £30 to £15 and from $50 to $25;

The Bulletin of Zoological Nomenclature (the Commission's quarterly journal) — discount valid for up to 5 years; for 1999 the discounted price would be £51 or $90.

Translations of the Code in a number of languages are planned and their availability will be announced on the Commission's Website.

Centralized access to newly published zoological names

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Abstract. Issues related to the development of a centralized list or register of new names in zoology are discussed. Central to the discussion is the nature of the list or register itself, and two types are considered. The first is a list of newly published names, without regard for their availability under the *International Code of Zoological Nomenclature*, while the second is a register of all newly published names which are definitely acceptable according to the Code. The second alternative would be an extremely valuable tool, but to produce it would require the checking of not only the information accompanying every name but also of external material. The first option is feasible now, since it is effectively a subset of the current *Zoological Record* (ZR) production process. The possibility is explored of creating a list of names, based on ZR data but with any gaps filled by cooperation with appropriate sectors of the taxonomic community.

Keywords. Nomenclature; taxonomy; registration of names; lists of names; *International Code of Zoological Nomenclature*; *Zoological Record*.

Introduction

The concept of an official, central, register of the names of organisms has long been an attractive idea to many taxonomists, who see it as a means of improving both nomenclatural stability and dissemination of taxonomic information. However, proposed mechanisms for turning the idea into a working reality have met with very different responses. A '*BioCode*' has been proposed to unify the future nomenclatural treatment of *all* organisms, and in draft versions of this (see for example BZN **53**: 148–166) the registration of new names is included (Article 8) as a requirement for their establishment as acceptable names. However, the adoption of such a unified Code is not an immediate prospect. Microbiologists already have definitive *Approved Lists of Bacterial Names* for past names and mandatory registration of new ones (achieved by their publication in the *International Journal of Systematic Bacteriology*), and botanists have set up a two-year (1998–1999) trial of name registration, possibly to be followed by mandatory registration after 1 January 2000 or some later date (see Borgen et al., 1998). Zoologists, on the other hand, have so far chosen not to pursue registration in any form. A proposal in the discussion draft of the new (fourth) Edition of the *International Code of Zoological Nomenclature* (to come into effect on 1 January 2000) which was circulated in 1995 required 'international notification' (in effect registration) of all new names by recording them in the *Zoological Record* (ZR), but this was abandoned in the face of widespread opposition.

This opposition was based on several expressed concerns: the ultimate responsibility for the availability of names was shifted onto the shoulders of the ZR recorders; perceptions that access to ZR favoured the developed world and would require payment; ZR coverage was insufficiently complete or reliable. Such drawbacks were seen by some as serious enough to raise the possibility of creating a new official body (presumably allied to the ICZN) to carry out the registration task, but no study of its feasibility was made.

Nevertheless, despite the opposition to the idea of mandatory registration of names, many zoologists do see the need for some sort of central resource of names to which all biologists could easily refer. This article explores the issues associated with providing such a resource.

Options for a centralized name register in zoology

There are differing views among taxonomists as to whether 'registration' should merely record names as they are published, or take the process significantly further by performing checks (using both internal and external evidence) on the nomenclatural acceptability of each name, effectively taking on a commenting/authoritative rather than a mere reporting role.

The second alternative, registering a name and fixing its authorship and date of availability, would to a large extent have been achieved by the 'international notification' proposed in the discussion draft of the new Code. Supporting and opposing views on this proposal were extensively documented in this *Bulletin* (BZN **52**: 229–232, 296, 300; **53**: 6–7, 8–9, 11, 15–17, 83–85, 87–88; see also Bouchet, 1999). In principle a register of a fully-checked type could be compiled by an organization specially created for the purpose, but there is no likelihood of this in the foreseeable future.

The first alternative, providing a centralized register or listing of all new names but taking them purely at face value as published, is feasible using existing facilities. Such a list could be produced by having authors of new names send copies of their publications to one or more agreed centres, and/or by examination of the current literature. The undertaking of even this as an entirely new initiative would be a substantial endeavour, since keeping track of what had been covered, in addition to the effort of recording the names themselves, would require significant resources of which there is no sign. However, a list of names published as new according to their authors, together with sufficient bibliographic data to enable other biologists to locate the name and evaluate its validity, could readily be produced from ZR. Relevant entries from the ZR database could easily be formatted to provide a list of names as defined above. It is important to note that ZR currently makes availability checks based on internal evidence in the publication, but does not survey external evidence.

While a register consisting of a basic list of new names is clearly not as valuable as an authoritative register of nomenclaturally acceptable names, it is certainly an attainable option and at the least such a list would enable taxonomists:

(a) to check for inclusion of their own newly published names and so ensure the widest possible notification to other taxonomists throughout the world;
(b) to discover newly published names within their taxonomic field of interest (some taxonomists may consider that they are adequately aware of all the work

in their field being done anywhere in the world, and they would have no interest in such a listing; others, perhaps more realistic, would consider it useful);

(c) in combination with other resources such as Neave's *Nomenclator Zoologicus* of generic names, to check potential new names before publication for possible prior use, and so help to prevent homonymy (in compiling ZR some 40–50 homonymous new generic names are discovered each year, which suggests that access to names in all branches of zoology would be indeed be useful).

It is acknowledged that there are a small number of omissions in ZR coverage (see below), but these could be filled with a little help from the community.

New names in the *Zoological Record*

To give some idea of the magnitude of the task of gathering new names for all groups of animals, we give a few facts and figures based on the effort currently required to compile ZR. Each year about 72,000 papers (including serial articles, books and individual chapters of books) are indexed from material published in some 100 different countries; in total about 4,500 serial titles and 1,200 books are reviewed. Individual records are made for an average of 20,000 new taxa at all ranks; of these, approximately 17,100 are new species and subspecies and 2,200 are new genera and subgenera. A further 8,500 records are made each year to cover new proposals of synonymy and new generic combinations. New names appear in numerous different types of publications, and the range of serial titles dealt with is enormous, from geology, through systematic and applied zoology, to local natural history publications and popular aquarium magazines. Of the 47 staff employed by BIOSIS, U.K., about 30 are directly involved with editorial aspects of ZR compilation, and the remaining 17 in vital administrative and computing support activities without which ZR could not be produced.

***Zoological Record* and registration**

The community rejected the use of ZR as a vehicle for mandatory 'registration' on several counts, but mainly on grounds of accessibility and perceived omissions and inaccuracies. We would like to offer our comments on these issues.

Accessibility

ZR was regarded as not being used by, or readily accessible to, all taxonomists. While we would not disagree about 'universal' use, ZR is probably more widely used by animal taxonomists than any other bibliographic service. It was also assumed that access to new names would have to be paid for, but in fact it was never the intention of ZR that taxonomists would have to be subscribers to check that new names were correctly included. During the period of comment (1995–1996) on the discussion draft of the forthcoming Edition of the Code, ZR made available a demonstration search facility through its web site, as one of a number of possible mechanisms for checking the inclusion of new names. This gave free access to a subset of all new names in the database with a publication date of 1990, together with an e-mail form for comments; though not heavily used (perhaps because of insufficient publicity) the demonstration did illustrate how quickly and easily a name could be checked.

Since April 1997 ZR has provided public access to all names recorded in ZR from volume 115 (1978 literature onwards), through its *Index to Organism Names* — a

service offered as an aid to the general bioscience community and currently available on the World Wide Web (http://www.york.biosis.org/triton/nameind.htm). This index gives access to animal names reported in ZR, and names of other organisms provided by collaborating organizations — biologists can check to which group a named organism belongs. This index remains freely available to all, and is consistently well used: each month over 12,000 searches are carried out by around 2,500 different users.

Any list of names based on the ZR index compilation could be made available in a number of formats (print, CD-ROM, on a website, etc.) entirely separate from the ZR product, and access to basic name data would not have to be dependent on subscription to any ZR products.

Omissions

The community felt that the number of names omitted from ZR was unacceptably high. Despite our best efforts, some names inevitably do escape us, and we have collaborated with Dr Philippe Bouchet in an estimate of this (see Bouchet, 1999). The study was based on new molluscan (excluding cephalopod) generic names published during the period 1988–1992, and assessed ZR as about 88% complete in its coverage of such new names; it was concluded that the record is probably about 90% complete for all new genus-group names. The study also analyzed the numbers and types of publications which were omitted. Over the 13-year study period, 260 molluscan generic names which were indicated as being new and contained in 89 publications were omitted, an annual average of about 20 names and 7 publications (for comparison, some 2,000 publications/year are indexed for the Mollusca Section). Of the names omitted, 78% were published in geological or palaeontological publications; the former are not generally regarded as 'core' to ZR's coverage, but are included in the list of serials scanned if they are known sources of new taxonomic names. Of the sources containing omitted names, 46% were non-serial publications (containing 64% of the names missing); this is not surprising, since books are inherently more difficult to locate than serials. Chinese or Russian publications contained 54% of the omitted names — such material, which contributes in total less than 6% of the entire number of items indexed, is difficult to obtain from our source libraries. This is well illustrated by the discovery that of the 19 Chinese books omitted from the Mollusca Section during the period 1988 1992, almost all were still unavailable to us when rechecked at the end of 1997. Liaison with China's Academia Sinica and Russia's Akademia Nauk would give us the opportunity to index their publications and bring them to wider attention.

Most of the other publications which were omitted were the result of human error (mainly gaps in our records of coverage); this was a known problem during this period, and a computer system for recording coverage was introduced in the late 1980's. This is reflected in the reduced level of omission (7.6%) during the period 1988–1992 — the last 5 years of the Bouchet study period. Since then ZR coverage procedures have continued to improve and it is our belief that currently even fewer new names escape us. Publications which contain new names are never knowingly omitted and ZR users are encouraged to notify us of any items which have not been covered (particularly monographs), but, unfortunately, very few taxonomists do this.

Two other types of omissions have been identified. (a) Names missed from items of literature which have been screened; the majority of these are simply the result of human error (oversight by an Indexer), but the incidence is certainly increased by authors' use of unconventional or poor styles of drawing attention to their new names. (b) Names not explicitly indicated as new in the literature; these will not be recorded as new by ZR, as we cannot check all names mentioned in the literature for newness and the policy is to deliberately avoid any judgements regarding the availability of names. However, the forthcoming edition of the Code prescribes (Article 16) that new names published after 1 January 2000 will not be available unless the authors explicitly both indicate that they are new and fix the name-bearing types, and this will clearly be of help.

Accuracy

In Bouchet's analysis 12 new names (0.6% of the total) were found to be spelt incorrectly in ZR. Within the limited resources available to us, great care is taken to ensure that names are transcribed correctly, but we are aware that a small number of errors do enter the database. Over the last ten years, and in particular the last five, changes in quality control processes have been introduced specifically aimed at improving the accuracy of name recording. Further improvements are planned when a fully revised production system is introduced later this year.

Conclusions

The magnitude of the task of gathering and checking all new names published worldwide requires extensive allocation of time and effort. However, ZR already covers approximately 90% of all new names, and with further help from the taxonomic community it should not be too difficult to gather nearly all the remaining 10%. This might allow some formal listing or 'registration' arrangement to be established for zoological names in the future, as already established in bacteriology and seriously contemplated in botany.

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Case 3126

Bulinus wrighti Mandahl-Barth, 1965 (Mollusca, Gastropoda): proposed conservation of the specific name

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Abstract. The purpose of this application is to conserve the specific name of *Bulinus wrighti* Mandahl-Barth, 1965 for a freshwater snail (family PLANORBIDAE) from Saudi Arabia, Oman and Yemen which is an often-cited intermediate host for schistosome parasites of medical and veterinary importance. The name is a junior primary homonym of *Bulinus wrightii* Sowerby, 1853 which relates to a large West African land snail (family ACHATINIDAE). The specific name of the latter has been used for nearly 150 years but since 1855 the taxon has been placed in *Pseudachatina* Albers, 1850, and not in *Bulinus* O.F. Müller, 1781. Neither *Pseudachatina wrightii* (Sowerby, 1853) nor *Bulinus wrighti* Mandahl-Barth, 1965 has a junior synonym.

Keywords. Nomenclature; taxonomy; Gastropoda; PLANORBIDAE; ACHATINIDAE; *Pseudachatina wrightii*; *Bulinus wrighti*; schistosomiasis.

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1. G.B. Sowerby sen. (1853, p. 1, pl. 1) described and figured *Bulinus wrightii*, a large dextral land snail currently placed in the family ACHATINIDAE (Stylommatophora, ACHATINOIDEA). The description was based on a single specimen (see McMillan, 1973, p. 40 for the history of Sowerby's publication). Sowerby did not cite an authorship for *Bulinus*, nor did he give a locality for the species. Pain & Paul (1967, p. 44) noted the type specimen as lost and 'the original figure as representative of the holotype'. Sowerby's (1853) usage of *Bulinus* for this taxon has never been accepted and since 1855 it has been referred to *Pseudachatina* Albers, 1850 (see H. & A. Adams, [1855], p. 134; Pilsbry, 1904, p. 206; and Pain & Paul, 1967, p. 44 and other references cited in that paper). *Pseudachatina wrightii* (Sowerby, 1853) is a species from western Africa and Pain & Paul (1967, p. 45) cited Old Calabar, Nigeria as the type locality, as had H. & A. Adams ([1855]) and Pilsbry (1904).

2. In his description of *Bulinus wrightii*, Sowerby (1853) commented '*B. downesii* is more like this species than any other'. *Bulinus downesii* Gray in G.B. Sowerby, jun., 1841 (*Bulinus*, fig. 99), a junior synonym of *Achatina leaiana* Grateloup, 1839, is the type species of *Pseudachatina* Albers, 1850. It appears that in both Sowerby jun. (1841) and Sowerby sen. (1853) the name *Bulinus* was used in error and probably as a spelling mistake for *Bulimus* Scopoli, 1777, to which genus several achatinid species were referred by authors in the 19th century. D'Ailly (1896, p. 86) listed '1840 *Bulinus Downesii* Gray in Sowerby' and then directly below cited *Bulimus Downesii*, apparently rejecting the name *Bulinus*. Pain & Paul (1967) altered to *Bulimus*, without comment, the usages of *Bulinus* by both Sowerby sen. and Sowerby jun.

3. The name *Bulinus* was established by O.F. Müller (1781, p. 6) for a group of species which included 'Le Bulin *Bulinus*' of Adanson (1757, Coquillages, p. 5, pl. 1) and to which Müller subsequently gave the name *Bulinus senegalensis*. This species is the type of the genus by Linnaean tautonymy (see Pilsbry & Bequaert, 1927, p. 133). Adanson gave the name *Bulinus* (from the French word bulle, meaning bubble) to small sinistral freshwater snails he collected in Senegal, West Africa, because they floated at the water surface. *Bulinus senegalensis* is one of about 40 species currently recognised as valid and placed in *Bulinus* Müller (see, for example, Mandahl-Barth, 1957 and Brown, 1994), classified in the subfamily BULININAE of the PLANORBIDAE (Basommatophora, PLANORBOIDEA). Some of the species are of medical or veterinary importance because they are intermediate hosts in the life cycle of *Schistosoma* Weinland, 1858 (Trematoda, Digenea), the cause of the disease schistosomiasis (bilharzia) in man and domestic livestock.

4. Mandahl-Barth (1965, p. 41) named the subspecies *wrighti* of *Bulinus reticulatus* Mandahl-Barth, 1954 (Basommatophora, PLANORBIDAE), of Africa, from specimens collected in South Yemen (formerly Western Aden Protectorate) on the basis of differences in the radular cusps previously described and figured by Wright (1963, p. 266, fig. 8). The shell from Rassais, Upper Aulaqi, figured by Wright (1963, pl. 2, fig. 6) and preserved in The Natural History Museum, London (Mollusca Registration No. 1966130), was selected by Mandahl-Barth as the holotype. This subspecies was later treated as a full species after a study of the immunological reactions of its egg proteins (see Wright, 1971, p. 311). Subsequent authors, apparently without exception, have treated *Bulinus wrighti* Mandahl-Barth as a distinct species, and the name has been used frequently in the malacological and parasitological literature (see, for example, the representative publications by Arfaa, 1976; Southgate & Knowles, 1977, pp. 82–83; Frandsen, 1979, pp. 283–285; Danish Bilharziasis Laboratory, 1983, p. 36; Hazza, Arfaa & Haggar, 1983, p. 1026; Brown & Gallagher, 1985, pp. 141–142; Brown, Gallagher, Knowles & Paltrinieri, 1985, pp. 136–137; Burch, 1985, pp. 70, 138; Jelnes, 1985, pp. 88, 91; Southgate et al., 1985, pp. 1254, 1257, 1259; Mouahid & Théron, 1987, pp. 1431–33; Arfaa et al., 1989, pp. 216, 218; Al-Safadi, 1990, p. 250; Ghandour, Al-Ghamdi & Al-Robai, 1990, p. 81; Mouahid et al., pp. 349–353; Brown, 1994, pp. 246–247, 373–374; Tchuem Tchuenté et al., 1997, p. 264). The species *B. wrighti* Mandahl-Barth has played an important part in experimental parasitology because it is a highly compatible intermediate host for a number of species of the *Schistosoma haematobium* group.

5. As recorded above (para. 4), the name *Bulinus wrighti* Mandahl-Barth, 1965 is well established in the malacological and parasitological literature and it is extremely undesirable that there should be any possibility of it being replaced as a junior primary homonym of *Bulinus wrightii* Sowerby, 1853. Sowerby's (1853) use of *Bulinus* for an achatinid land snail has never been accepted and there is no indication that Sowerby really intended to place his species in *Bulinus* Müller. Sowerby's species was placed in *Pseudachatina* Albers, 1850 by H. & A. Adams as long ago as 1855, and there it has since remained. The two species *Pseudachatina wrightii* (Sowerby, 1853) and *Bulinus wrighti* Mandahl-Barth, 1965 are very different taxonomically and are placed in different superfamilies and indeed orders, and their names have been used without ambiguity or confusion. Neither of the specific names has a junior synonym. We propose that *Bulinus wrighti* Mandahl-Barth, 1965 be conserved as a valid name.

6. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to rule that the specific name *wrighti* Mandahl-Barth, 1965, as published in the trinomen *Bulinus reticulatus wrighti*, is not invalid by reason of being a junior primary homonym of *Bulinus wrightii* Sowerby, 1853;

(2) to place on the Official List of Specific Names in Zoology the following names:
   (a) *wrightii* Sowerby, 1853, as published in the binomen *Bulinus wrightii*;
   (b) *wrighti* Mandahl-Barth, 1965 as published in the trinomen *Bulinus reticulatus wrighti* (not invalid by the ruling in (1) above).

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Case 3052

Sphaerius Waltl, 1838 and SPHAERIUSIDAE Erichson, 1845 (Insecta, Coleoptera): proposed conservation by the partial revocation of Opinion 1331

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Abstract. The purpose of this application is to conserve the beetle family-group name SPHAERIUSIDAE Erichson, 1845 and the name of its type genus *Sphaerius* Waltl, 1838. The nominal genus *Sphaerius* was unnecessarily suppressed in Opinion 1331 (1985) despite the fact that it was never (and is still not) a homonym. The Commission is asked to rescind certain parts of Opinion 1331 and to correct errors of fact relating to a number of names placed on Official Lists.

Keywords. Nomenclature; taxonomy; Coleoptera; SPHAERIUSIDAE; *Sphaerius*; *Sphaerius acaroides*.

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1. An application from Dr A.H. Clarke for the removal of the homonymy of the family-group name SPHAERIIDAE in Mollusca and Insecta was published in 1970 as Case 1892 (BZN **26**: 235–237). Various comments and alternative proposals were received and published in the *Bulletin*, and it was not until 1985 that the rulings of the Commission were published as Direction 117 (BZN **42**: 43–45) and Opinion 1331 (BZN **42**: 230–232). These rulings were:

(1) Under the plenary powers the generic name *Sphaerius* Waltl, 1838 and all subsequent uses of that name were suppressed for the purposes of both the Principle of Priority and the Principle of Homonymy;

(2) The generic name *Microsporus* Kolenati, 1846 (gender: masculine), type species by monotypy *Microsporus obsidianus* Kolenati, 1846, was placed on the Official List of Generic Names in Zoology;

(3) An earlier entry on the Official List of Generic Names in Zoology was corrected to read: *Sphaerium* Scopoli, 1777 (gender: neuter), type species by monotypy [not by subsequent designation by J.E. Gray, 1847] *Tellina cornea* Linnaeus, 1758;

(4) The specific name *obsidianus* Kolenati, 1846, as published in the binomen *Microsporus obsidianus* (specific name of the type species of *Microsporus* Kolenati, 1846) was placed on the Official List of Specific Names in Zoology;

(5) The following family-group names were placed on the Official List of Family-Group Names in Zoology:
(a) SPHAERIIDAE Jeffreys, 1862 (1820) (type genus *Sphaerium* Scopoli, 1777);
(b) MICROSPORIDAE Reichardt, 1976 (type genus *Microsporus* Waltl, 1838);

(6) The following generic names were placed on the Official Index of Rejected and Invalid Generic Names in Zoology:
  (a) *Sphaerius* Waltl, 1838, as suppressed under the plenary powers;
  (b) *Cyclas* Lamarck, [1798] (a junior objective synonym of *Sphaerium* Scopoli, 1777);

(7) The following family-group names were placed on the Official Index of Rejected and Invalid Family-Group Names in Zoology:
  (a) CYCLADIDAE (as 'Cycladia') Rafinesque, 1820 (invalid because the name of its type genus is a junior objective synonym rejected before 1961);
  (b) SPHAERIIDAE Erichson, 1845 (invalid because the name of its type genus was suppressed under the plenary powers).

2. Although, following Opinion 1331, *Microsporus* and MICROSPORIDAE have often been used, *Sphaerius* and its derived family name have been retained by some workers (e.g. Lafer, 1989; Yang, 1994; Telnov et al., 1997), while White & Brigham (1996) used *Sphaerius* but placed it in the MICROSPORIDAE.

3. Publication of Opinion 1331 has caused considerable confusion in the following respects:

(i) The generic name *Sphaerius* Waltl, 1838 was suppressed by the Commission solely to remove the homonymy between the derived family name SPHAERIIDAE Erichson, 1845 and SPHAERIIDAE Jeffreys, 1862 (1820) (Mollusca; type genus *Sphaerium* Scopoli, 1777). This unprecedented action was taken despite the fact that *Sphaerius* was stated to have been in general use for many years and that R.V. Melville, then Commission Secretary, emphatically warned (BZN **32**: 204) that 'there is no intrinsic reason for suppressing either [the generic or family names] ... there is no justification in this case for the implied disturbance of stability in generic names'. Melville (BZN **32**: 60–62) also suggested that the most satisfactory way of removing homonymy was to adopt the spelling SPHAERIUSIDAE, as specified in Article 55b(ii) of the current Code. The suppression of *Sphaerius* for the purposes of homonymy has the undesirable, and presumably overlooked, effect of permitting the future introduction of this name in a quite different taxonomic sense.

(ii) The type species of *Sphaerius* is *S. acaroides*, Waltl, 1838, and the type species of *Microsporus* is *M. obsidianus* Kolenati, 1846. These two specific names were synonymised by Mathews (1899), but this synonymy has never been confirmed. Six syntypes of *Sphaerius acaroides* are in good condition in the Naturhistorisches Museum in Vienna, whereas the types of *Microsporus obsidianus* have not been located with certainty.

(iii) The suppression of the generic name *Sphaerius* has induced some authors to believe erroneously that the name of its type species, *Sphaerius acaroides*, was no longer available and to use instead the name of its presumed junior synonym, *Microsporus obsidianus*. Such works include Lohse & Lucht (1989), Löbl (1995) and Endrödy-Younga (1997).

(iv) The name MICROSPORIDAE was attributed to Reichardt (1976) in Opinion 1331; Lawrence & Newton (1995, p. 805) pointed out that it was actually established by Crotch (1873, p. 78). The author of the type genus *Microsporus* was erroneously given as Waltl (1838) in (4)(1) of Opinion 1331; in fact, it was Kolenati (1846).

4. In order to remedy these serious defects I propose that Opinion 1331 be modified in a number of respects. This will have the effect of restoring availability to

the name *Sphaerius* Waltl, 1838 and the derived family name; these are the oldest names for the taxa. The spelling SPHAERIUSIDAE is in line with Recommendation 29B of the forthcoming new edition of the Code. The names *Microsporus* Kolenati, 1846, MICROSPORIDAE Crotch, 1873 and *obsidianus* Kolenati, 1846 remain available should they be required for future taxonomic use.

5. This proposal to the Commission has the support of a large number of entomologists whose views I have sought, including I.M. Kerzhner (St Petersburg), B. Klausnitzer (Dresden), I. Löbl (Geneva) and A. Smetana (Ottawa).

6. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers:
  (a) to rescind the suppression under the plenary powers of the generic name *Sphaerius* Waltl, 1838;
  (b) to rule that for the purposes of Article 29 of the Code the stem of the generic name *Sphaerius* Waltl, 1838 is SPHAERIUS-;

(2) to delete the entry for *Sphaerius* Waltl, 1838 from the Official Index of Rejected and Invalid Generic Names in Zoology and to place on the Official List of Generic Names in Zoology the name *Sphaerius* Waltl, 1838 (gender: masculine), type species by monotypy *Sphaerius acaroides* Waltl, 1838;

(3) to place on the Official List of Specific Names in Zoology the name *acaroides* Waltl, 1838, as published in the binomen *Sphaerius acaroides* (specific name of the type species of *Sphaerius* Waltl, 1838);

(4) to place on the Official List of Family-Group Names in Zoology the name SPHAERIUSIDAE Erichson, 1845, type genus *Sphaerius* Waltl, 1838 (spelling emended by the ruling in (1)(b) above);

(5) to emend the entry on the Official List of Family-Group Names in Zoology for the name MICROSPORIDAE Reichardt, 1976 to read 'MICROSPORIDAE Crotch, 1873 (type genus *Microsporus* Kolenati, 1846)';

(6) to emend the entry on the Official Index of Rejected and Invalid Family-Group Names in Zoology for SPHAERIIDAE Erichson, 1845 to read 'SPHAERIIDAE Erichson, 1845 (an incorrect original spelling of SPHAERIUSIDAE)' under the ruling given in (1)(b) above.

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Case 3063

Blennocampa Hartig, 1837, *Cryptocampus* Hartig, 1837, *Taxonus* Hartig, 1837, *Ametastegia* A. Costa, 1882, *Endelomyia* Ashmead, 1898, *Monsoma* MacGillivray, 1908, *Gemmura* E.L. Smith, 1968, BLENNOCAMPINI Konow, 1890 and CALIROINI Benson, 1938 (Insecta, Hymenoptera): proposed conservation by setting aside the type species designations by Gimmerthal (1847) and recognition of those by Rohwer (1911)

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Abstract. Gimmerthal (1847) proposed type species for the sawfly genera *Poecilostoma* Dahlbom, 1835, *Blennocampa* Hartig, 1837, *Cryptocampus* Hartig, 1837 and *Taxonus* Hartig, 1837 (family TENTHREDINIDAE). The designations of type species in Gimmerthal's publication have been overlooked by subsequent authors. The purpose of this application is to conserve the subsequent designations of type species by Rohwer (1911), thereby maintaining the current usage of the genus-group names *Blennocampa*, *Cryptocampus*, *Taxonus*, *Ametastegia* A. Costa, 1882, *Endelomyia* Ashmead, 1898, *Monsoma* MacGillivray, 1908 and *Gemmura* E.L. Smith, 1968, and the family-group names BLENNOCAMPINI Konow, 1890 and CALIROINI Benson, 1938.

Keywords. Nomenclature; taxonomy; Hymenoptera; TENTHREDINIDAE; BLENNOCAMPINAE; CALIROINI; sawflies; *Blennocampa*; *Cryptocampus*; *Taxonus*; *Ametastegia*; *Endelomyia*; *Monsoma*; *Gemmura*.

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1. Gimmerthal (1847) published a survey of the sawflies occurring in Livonia and Kurland. He included (pp. 34–42) a key to the genera and listed type species, which he indicated as such by the word 'Typus' or by the abbreviations 'Typ.' or 'T.'. For some genera Gimmerthal (1847) has to be regarded as the first publication of the subsequent designation of a type species. For several other genera the selection of types by Gimmerthal are not valid as the species designated were not originally included in the genera, or the types had already been selected by other authors before 1847. The paper by Gimmerthal (1847) has been overlooked for the purpose of designation of type species by subsequent authors. For the four genera *Poecilostoma* Dahlbom, 1835, *Blennocampa* Hartig, 1837, *Cryptocampus* Hartig, 1837 and *Taxonus* Hartig, 1837 the accepted type species are those designated by Rohwer (1911). Recognition of Gimmerthal's (1847) type designations for these genera would also affect the validity of the genus-group names *Ametastegia* A. Costa, 1882, *Endelomyia* Ashmead, 1898, *Monsoma* MacGillivray, 1908 and *Gemmura* E.L. Smith, 1968, and of the family-group names BLENNOCAMPINI Konow, 1890 and CALIROINI Benson, 1938.

2. For the following genera Gimmerthal (1847) designated type species which are not in accordance with the current understanding of the taxon:

***Poecilostoma* Dahlbom, 1835** (pp. 5, 13)
Designation by Gimmerthal (1847, p. 41): *Tenthredo* (*Allantus*) *obesa* Klug, 1817 (p. 210; cited by Dahlbom as a junior synonym of *T. pulverata* Retzius, 1783, p. 72, currently known as *Monsoma pulveratum*).
Current usage: type species *Tenthredo guttata* Fallén, 1808 (p. 105; synonymized with *T. liturata* Gmelin, 1790, p. 2668, by Konow, 1905, p. 103; currently known as *Empria liturata*). Designation by Rohwer (1911, p. 87).

Following Rohwer (1911, p. 87), *Poecilostoma* Dahlbom, 1835 has been treated as a junior synonym of *Empria* Lepeletier & Serville, [1828] (p. 571). Recognition of Gimmerthal's (1847) type designation would result in *Poecilostoma* becoming the valid name for *Monsoma* MacGillivray, 1908 (p. 368; type species *Poecilostoma inferentia* Norton, 1868, p. 224). *Monsoma* is a name in current use (family TENTHREDINIDAE) which will be conserved if Gimmerthal's action is set aside. We now propose this.

***Blennocampa* Hartig, 1837** (p. 266)
Designation by Gimmerthal (1847, p. 39): *Tenthredo aethiops* Gmelin, 1790 (p. 2992; a replacement name for *T. morio* Fabricius, 1781, p. 416, which was a homonym of *T. morio* Fabricius, 1781, p. 414, known as *Nesoselandria morio*, treated as *Dulophanes morio* by Lacourt, 1998). *T. aethiops* is currently known as *Endelomyia aethiops*.
Current usage: type species *Tenthredo* (*Allantus*) *pusilla* Klug, 1816 (p. 71; a junior homonym of *Tenthredo pusilla* O.F. Müller, 1776, p. 1, and replaced by *Blennocampa phyllocolpa* Viitasaari & Vikberg, 1985, p. 2). Designation by Rohwer (1911, p. 75).

The genus *Endelomyia* Ashmead, 1898 (p. 256; type species *Selandria rosae* Harris, 1841, p. 380, a junior synonym of *Tenthredo morio* Fabricius, 1781 and *T. aethiops* Gmelin, 1790; see, for example, D.R. Smith, 1971, p. 10) is included in the tribe CALIROINI Benson, 1938 (p. 368) of the subfamily HETERARTHRINAE Benson, 1952 (see D.R. Smith, 1971) or BLENNOCAMPINAE Konow, 1890 (see Benson, 1952). *Blennocampa* Hartig, 1837 is the type genus of the BLENNOCAMPINAE. Recognition of Gimmerthal's (1847) type species designation for *Blennocampa* would result in *Blennocampa* becoming the valid name for the genus which is presently called *Endelomyia*, and a new name would be needed for *Blennocampa* as currently understood. Furthermore, the tribe name BLENNOCAMPINI would become a senior synonym of CALIROINI (type genus *Caliroa* A. Costa, 1859, p. 59; type species *Caliroa sebetia* A. Costa, 1859, synonymized with *Tenthredo* (*Allantus*) *cinxia* Klug, 1816, pp. 69–70, by Konow, 1890, p. 248) and a new name would be required for the group of species currently called BLENNOCAMPINI.

We propose that Gimmmerthal's (1847) type species designation for *Blennocampa* be set aside, so allowing the accustomed usages of the generic names *Blennocampa* and *Endelomyia*, and of the tribe names BLENNOCAMPINI and CALIROINI, to be maintained.

Endelomyia aethiops is the 'rose-slug' sawfly, well known as a pest of roses (see D.R. Smith, 1971, who wrote that the species 'has received much attention in the

literature and was recognized as a pest of roses as early as 1841 by Harris. In Massachusetts in the 1840's it was such a pest that $100 was offered for the most successful way to destroy it (Chittenden, 1908)'.).

***Cryptocampus* Hartig, 1837** (p. 221)
Designation by Gimmerthal (1847, p. 36): *Nematus mucronatus* Hartig, 1837 (p. 223; currently known as *Euura* (*Gemmura*) *mucronata*).
Current usage: type species *Nematus* (*Cryptocampus*) *medullarius* Hartig, 1837 (p. 224; synonymized with *Cynips amerinae* Linnaeus, 1758, p. 554, by Dalla Torre, 1894, pp. 274–275; currently known as *Euura amerinae*). Designation by Rohwer (1911, p. 77, who mispelled *medullarius* as *medullaris*).

Recognition of the designation of *Nematus mucronatus* Hartig, 1837 as the type species of *Cryptocampus* Hartig, 1837 would cause the currently valid subgeneric name *Gemmura* E.L. Smith, 1968 (p. 1401; type species *N. mucronatus* Hartig, 1837) to become a junior objective synonym of *Cryptocampus*. We propose that Gimmerthal's (1847) type designation be set aside.

***Taxonus* Hartig, 1837** (p. 297)
Designation by Gimmerthal (1847, p. 41): *Tenthredo* (*Allantus*) *bicolor* Klug, 1817 (p. 219; synonymized with *Tenthredo equiseti* Fallén, 1808, p. 60, by Thomson, 1871, p. 234; currently known as *Ametastegia equiseti*).
Current usage: type species *Tenthredo* (*Allantus*) *nitida* Klug, 1817 (p. 218). Designation by Rohwer (1911, p. 90) who, following Konow ('1896', recte 1905, p. 108) and MacGillivray (1908), cited *Tenthredo nitida* as a junior synonym of *T. agrorum* Fallén, 1808 (p. 60), which is currently placed in *Taxonus*.

Gimmerthal (1847) recorded *Tenthredo bicolor* Klug, 1817 as the type species of '*Taxonus* Meyr.' (cited as '*Taxonus*, Meg. v. Mühlfeld' by Hartig, 1837). Recognition of Gimmerthal's designation would mean that *Taxonus* would become the valid name for those species presently grouped as *Ametastegia* A. Costa, 1882 (p. 198; type species *Ametastegia fulvipes* A. Costa, 1882, synonymized with *Tenthredo glabrata* Fallén, 1808, p. 108, by Konow, 1905). The valid name for *Taxonus* as currently understood would be *Ermilia* A. Costa, 1859 (p. 106; type species by monotypy *E. pulchella* A. Costa, 1859, p. 106, pl. 76, fig. 6, a junior synonym of *Taxonus agrorum* (Fallén, 1808); see Costa, 1894, p. 155).

We propose that Gimmerthal's type designation for *Taxonus* be set aside to allow the established usage of the names *Taxonus* and *Ametastegia* to continue.

3. Recognition of the type species designations made by Gimmerthal (1847) would upset the current usage of a number of generic names and would threaten nomenclatural stability. Changes in the current use of the genus- and family-group names which have been mentioned would cause confusion in the names of widely distributed taxa. Most affected genera are widely distributed in the Holarctic region and are mentioned in many faunistic lists. The names have been used in the following representative list of recent publications: Benson (1952; BLENNOCAMPINI, CALIROINI, *Ametastegia*, *Blennocampa*, *Endelomyia*, *Gemmura*, *Monsoma* and *Taxonus*), Lorenz & Kraus (1957; CALIROINI, *Ametastegia*, *Blennocampa*, *Endelomyia* and *Monsoma*), D.R. Smith (1969; BLENNOCAMPINI, *Blennocampa*), D.R. Smith (1971; CALIROINI,

Endelomyia), Krombein, Hurd, Smith & Burks (1979; BLENNOCAMPINI, CALIROINI, *Ametastegia*, *Endelomyia*, *Gemmura* and *Monsoma*), Zombori (1981; CALIROINI, *Ametastegia*, *Blennocampa*, *Endelomyia*, *Monsoma* and *Taxonus*), Viitasaari & Vikberg (1985; BLENNOCAMPINI, CALIROINI, *Ametastegia*, *Blennocampa*, *Endelomyia* and *Taxonus*), Taeger (1986; *Ametastegia*, *Monsoma* and *Taxonus*), Zhelochovtsev (1988; BLENNOCAMPINI, CALIROINI, *Ametastegia*, *Blennocampa*, *Endelomyia*, *Monsoma* and *Taxonus*), Goulet (1992; BLENNOCAMPINI, CALIROINI, *Ametastegia*, *Endelomyia*, *Gemmura*, *Monsoma* and *Taxonus*), Liston (1995; BLENNOCAMPINI, CALIROINI, *Ametastegia*, *Blennocampa*, *Endelomyia*, *Gemmura*, *Monsoma* and *Taxonus*). A list of a further 15 publications in which the names are used, dating from 1952 to 1998, is held by the Commission Secretariat).

4. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to set aside all previous designations of type species prior to those by Rohwer (1911) for the following genera and to make the designations shown:
   (a) *Poecilostoma* Dahlbom, 1835: type species *Tenthredo guttata* Fallén, 1808;
   (b) *Blennocampa* Hartig, 1837: type species *Tenthredo* (*Allantus*) *pusilla* Klug, 1816;
   (c) *Cryptocampus* Hartig, 1837: type species *Nematus* (*Cryptocampus*) *medullarius* Hartig, 1837;
   (d) *Taxonus* Hartig, 1837: type species *Tenthredo* (*Allantus*) *nitida* Klug, 1817;

(2) to place on the Official List of Generic Names in Zoology the following names:
   (a) *Poecilostoma* Dahlbom, 1835 (gender: neuter), type species by subsequent designation by Rohwer (1911) *Tenthredo guttata* Fallén, 1808 (a junior subjective synonym of *Tenthredo liturata* Gmelin, 1790), as ruled in (1)(a) above;
   (b) *Blennocampa* Hartig, 1837 (gender: feminine), type species by subsequent designation by Rohwer (1911) *Tenthredo* (*Allantus*) *pusilla* Klug, 1816 (invalid senior objective synonym of *Blennocampa phyllocolpa* Viitasaari & Vikberg, 1985), as ruled in (1)(b) above;
   (c) *Cryptocampus* Hartig, 1837 (gender: masculine), type species by subsequent designation by Rohwer (1911) *Nematus* (*Cryptocampus*) *medullarius* Hartig, 1837 (a junior subjective synonym of *Cynips amerinae* Linnaeus, 1758), as ruled in (1)(c) above;
   (d) *Taxonus* Hartig, 1837 (gender: masculine), type species by subsequent designation by Rohwer (1911) *Tenthredo* (*Allantus*) *nitida* Klug, 1817 (a junior subjective synonym of *Tenthredo agrorum* Fallén, 1808), as ruled in (1)(d) above;
   (e) *Ametastegia* A. Costa, 1882 (gender: feminine), type species by monotypy *Ametastegia fulvipes* A. Costa, 1882 (a junior subjective synonym of *Tenthredo glabrata* Fallén, 1808);
   (f) *Endelomyia* Ashmead, 1898 (gender: feminine), type species by monotypy and original designation *Selandria rosae* Harris, 1841 (a junior subjective synonym of *Tenthredo aethiops* Gmelin, 1790);
   (g) *Monsoma* MacGillivray, 1908 (gender: neuter), type species by monotypy and original designation *Poecilostoma inferentia* Norton, 1868;

(h) *Gemmura* E.L. Smith, 1968 (gender: feminine), type species by original designation *Nematus* (*Cryptocampus*) *mucronatus* Hartig, 1837;
(i) *Caliroa* A. Costa, 1859 (gender: feminine), type species by monotypy *Caliroa sebetia* A. Costa, 1859 (a junior synonym of *Tenthredo* (*Allantus*) *cinxia* Klug, 1816);

(3) to place on the Official List of Specific Names in Zoology the following names:
(a) *liturata* Gmelin, 1790, as published in the binomen *Tenthredo liturata* (senior subjective synonym of *Tenthredo guttata* Fallén, 1808, the type species of *Poecilostoma* Dahlbom, 1835);
(b) *phyllocolpa* Viitasaari & Vikberg, 1985, as published in the binomen *Blennocampa phyllocolpa* (junior objective synonym of *Tenthredo* (*Allantus*) *pusilla* Klug, 1816, the type species of *Blennocampa* Hartig, 1837);
(c) *amerinae* Linnaeus, 1758, as published in the binomen *Cynips amerinae* (senior subjective synonym of *Nematus* (*Cryptocampus*) *medullarius* Hartig, 1837, the type species of *Cryptocampus* Hartig, 1837);
(d) *agrorum* Fallén, 1808, as published in the binomen *Tenthredo agrorum* (senior subjective synonym of *Tenthredo* (*Allantus*) *nitida* Klug, 1817, the type species of *Taxonus* Hartig, 1837);
(e) *glabrata* Fallén, 1808, as published in the binomen *Tenthredo glabrata* (senior subjective synonym of *Ametastegia fulvipes* A. Costa, 1882, the type species of *Ametastegia* A. Costa, 1882);
(f) *aethiops* Gmelin, 1790, as published in the binomen *Tenthredo aethiops* (senior subjective synonym of *Selandria rosae* Harris, 1841, the type species of *Endelomyia* Ashmead, 1898);
(g) *inferentia* Norton, 1868, as published in the binomen *Poecilostoma inferentia* (specific name of the type species of *Monsoma* MacGillivray, 1908);
(h) *mucronatus* Hartig, 1837, as published in the binomen *Nematus* (*Cryptocampus*) *mucronatus* (specific name of the type species of *Gemmura* E.L. Smith, 1968);
(i) *cinxia* Klug, 1816, as published in the binomen *Tenthredo* (*Allantus*) *cinxia* (senior subjective synonym of *Caliroa sebetia* A. Costa, 1859, the type species of *Caliroa* A. Costa, 1859);

(4) to place on the Official List of Family-Group Names in Zoology the following names:
(a) BLENNOCAMPINI Konow, 1890 (type genus *Blennocampa* Hartig, 1837);
(b) CALIROINI Benson, 1938 (type genus *Caliroa* A. Costa, 1859).

Acknowledgements

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Case 3066

Macrophya Dahlbom, 1835 (Insecta, Hymenoptera): proposed designation of *Tenthredo montana* Scopoli, 1763 as the type species; and *Tenthredo rustica* Linnaeus, 1758: proposed conservation of usage of the specific name by the replacement of the syntypes with a neotype

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Abstract. The purpose of this application is to conserve the understanding of the name *Macrophya* Dahlbom, 1835, which has been used for a genus of sawflies included in the family TENTHREDINIDAE (tribe MACROPHYINI) since its original publication. However, in 1934 the name of the type species of the genus, *Tenthredo rustica* Linnaeus, 1758, was transferred to a species of sawfly included in the genus *Arge* Schrank, 1802 (family ARGIDAE), thereby formally rendering the name *Macrophya* a junior subjective synonym of *Arge*. It is proposed that *Tenthredo montana* Scopoli, 1763 be designated as the type species of *Macrophya* in accord with the long-established and universal usage of the generic name. It is also proposed that the name-bearing status of the syntypes of *Tenthredo rustica* Linnaeus, 1758 be set aside and a neotype designated in accord with the use since 1934 of the specific name for a well-known and widespread species of *Arge*.

Keywords. Nomenclature; taxonomy; Hymenoptera; TENTHREDINIDAE; MACROPHYINI; ARGIDAE; sawflies; *Macrophya*; *Macrophya montana*; *Arge rustica*.

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1. Dahlbom (1835, pp. 4, 11) established the name *Macrophya* for a subgenus of the sawfly genus *Tenthredo* Linnaeus, 1758. The subgenus included 12 nominal species, among them '*Tenthredo* (*Macrophya*) *rustica*'. Dahlbom did not characterise the species, nor give an authorship and date for the name.

2. Westwood ([1839], p. 53) designated '*T. rusticus* Linn[aeus]. Pz.64.10' as the type species of *Macrophya*. Westwood's type species designations were accepted in Opinion 71 (January 1922) and Direction 32 (May 1956), and the dates of the parts of his publication were set out in Direction 63 (June 1957).

3. The notation 'Pz.64.10' refers to Panzer's ([1799], pl. 10) description of his new species *Tenthredo notata* from Austria, which undoubtedly represents the female of the species that was called *Macrophya rustica* until the publication of Malaise & Benson (1934), that is, the species now called *Macrophya montana* (Scopoli, 1763) (see para. 4 below).

4. On the basis of the original description by Linnaeus (1758, p. 556), Malaise & Benson (1934, pp. 4–5) pointed out that *Tenthredo rustica* Linnaeus, 1758 is not the species which was for a long time called *Macrophya rustica* by authors but is a species of the genus *Arge* Schrank, 1802. Malaise & Benson (1934) discussed the type

material of *Tenthredo rustica* Linnaeus from Linnaeus's collection in London and noted:

'There are 5 (females) of the species now known as *Macrophya rustica* (Linné): 1 (female) unlabelled, 2 (females) labelled 'n. 141', and 2 (females) labelled 'simillimus rusticae sed distincta angl. B. Clark'.

But these specimens do not agree with the original description of 1758, which is repeated in *Fauna Suecica* (1761), in which the species described comes under the heading 'Antennis subclavatis continuis, nec articulatis' and the description reads 'abdomine nigro; cingulis quattuor flavis'. *Arge atrata* (Forster, 1771) is the only Swedish species which fits this description.

In the later description of 1767, Linné places the species in a group by itself under the heading 'Antennis subclavatis, articulatis', with the word 'nec' accidentally omitted before 'articulatis'; there can be doubt about this and if this is recognised the descriptions of 1758 and 1767 tally. In no other instance has Linné spoken of the antennae as being segmented without indicating how much so, i.e. 'plurimis articulatis' or '7 and 8 atriculatis', etc. The omission of the word 'nec' in 1767 is not sufficient evidence for saying that Linné made a mistake in 1758 and that he really was describing a *Macrophya* with 7-segmented flagellum. *Arge atrata* (Forster, 1771) must become *Arge rustica* (Linné, 1758), and *Macrophya rustica* auct., nec Linné, therefore becomes *Macrophya montana* (Scop.) (*Tenthredo montana* Scopoli 1763)'.

5. On the basis of Linnaeus's (1758) description, Malaise & Benson (1934) referred the name *Tenthredo rustica* Linnaeus, 1758 to a species of *Arge* (family ARGIDAE), and not to a species of *Macrophya* (family TENTHREDINIDAE). The loss of the specific name of *Tenthredo atrata* Forster, 1771 (p. 80), the transfer of the name *rustica* from the one species to the other, and the introduction of the name *montana* Scopoli, 1763 in place of *rustica* as hitherto understood, caused confusion in the use of the specific names of two common European sawfly species. In a few cases *Macrophya rustica* continued to be used as a valid name (see, for example, Muche, 1968, p. 14; Scobiola-Palade, 1978, p. 222), probably because these authors were unaware of the paper by Malaise & Benson (1934). However, Malaise & Benson's nomenclatural arrangement has now been widely accepted.

6. It is not immediately clear which species Dahlbom (1835) understood as *Tenthredo* (*Macrophya*) *rustica* when proposing the name *Macrophya* because he neither described the species nor mentioned the author of the name (para. 1 above). The species is merely listed, followed by several names of Scandinavian locations. However, the other species listed under *Macrophya* by Dahlbom indicate beyond all doubt what he understood as this subgenus: *Tenthredo duodecimpunctata* Linnaeus, 1758, *T. blanda* Fabricius, 1775, *T. albicincta* Schrank, 1776, *T. albipuncta* Fallén, 1804, *T. ribis* Schrank, 1781, *T. neglecta* Klug, 1814 (currently *Macrophya annulata* (Geoffroy, 1785)), *T. strigosa* Fabricius, 1798 (currently *M. rufipes* (Linnaeus, 1758)), *T. punctum* Fabricius, 1781 (currently *M. punctumalbum* (Linnaeus, 1767)), *T. quadrimaculata* Fabricius, 1781 (a senior synonym of *M. sanguinolenta* (Gmelin, 1790)), *T. rapae* Linnaeus, 1767 and *T. variegata* Fabricius, 1808. The last two species are currently included in *Pachyprotasis* Hartig, 1837, a related member of the tribe MACROPHYINI in the TENTHREDININAE. In the generic key for *Macrophya*, Dahlbom (1835, p. 4) used a character ('coxis posticis maximis') which is still used

today to differentiate the MACROPHYINI from other tribes of the TENTHREDININAE. Furthermore, he distinguished (p. 3) species of *Macrophya*, including *rustica*, from members of the genus *Hylotoma* Latreille, 1803 (a junior synonym of *Arge* Schrank, 1802) by 'Antennae subsetaceae aut subfiliformis ... Antennae articulis 9', whereas *Hylotoma* species were characterised by the conspicuous shape of the antennae ('Antennae subcylindricae, mediocres, articulis 3'). Thus from the content of his work it is evident that Dahlbom (1835) interpreted *Tenthredo rustica* Linnaeus, 1758 as a species of *Macrophya*.

7. It is also evident from Westwood's ([1839]) type designation (para. 2 above) that he interpreted the type species '*T. rusticus* Linn. Pz. 64.10' in the sense of Panzer ([1799]), i.e. as a species of *Macrophya*.

8. The description of *Tenthredo montana* Scopoli, 1763 (pp. 276–277, fig. 724), which was based on a pair of specimens captured in copulation 'in montanis districtis Idriensis' (Slovenia), leaves no doubt that the species is the same as *Macrophya rustica* as understood before 1934, i.e. a species of *Macrophya*.

9. The generic name *Macrophya* Dahlbom, 1835 is used in the sense of *Tenthredo rustica* as understood before 1934 (i.e. *Tenthredo montana* Scopoli, 1763), and not in the sense of Linnaeus's (1758) description. Authors have been aware of the problem of the type species of *Macrophya* but so far none has proposed a solution. Smith (1979, p. 120) wrote: 'Type species: *Tenthredo rusticus* [recte *rustica*] Linnaeus Design. by Westwood, 1840 [recte 1839]. *T. rusticus* in sense of authors at that time'; Gibson (1980, p. 15) noted: '*Tenthredo rusticus* auct. nec. Linnaeus = *Macrophya montana* (Scopoli). By subsequent designation by Westwood, 1840'; and Abe & Smith (1991) recorded: '*Tenthredo rusticus* auct., nec. Linnaeus (Designated by Westwood, 1840)'.

10. The genus *Macrophya* comprises more than 150 species and has a wide range of distribution. The name is cited by many authors; virtually every work on the sawfly fauna of Europe or the Mediterranean area includes at least one, and usually several, *Macrophya* species because they are comparatively abundant and can be collected easily from flowers, particularly *Macrophya montana* from flowers of the family Apiaceae (alternatively known as Umbelliferae). Members of the genus *Macrophya* are widespread in the Western Palaearctic (see, for example, Muche, 1968; Ermolenko, 1977; Magis, 1985; Zhelochovtsev, 1988; Lacourt, 1991; Chevin, 1995; Blank et al., 1998; and Taeger et al., 1998), the Eastern Palaearctic (see, for example, Naito, 1978; Inomata & Shinohara, 1993; Shinohara, 1997; and Wei & Ma, 1997), the Nearctic (see, for example, Gibson, 1980; and Smith, 1991), and the Indian subcontinent (see, for example, Singh & Saini, 1989; Saini, Bharti & Singh, 1996). A representative list of a further 24 references, mainly of taxonomic works from the past 20 years, which demonstrate the usage of the name *Macrophya*, is held by the Commission Secretariat. Recognition that as a consequence of Malaise & Benson's (1934) nomenclatural rearrangement the name *Macrophya* Dahlbom, 1835 (family TENTHREDINIDAE) becomes a junior subjective synonym of *Arge* Schrank, 1802 (family ARGIDAE), and that a new name is needed for the genus *Macrophya* as always understood, would cause considerable confusion.

11. In order to maintain the original and current usage of the name *Macrophya*, in the interest of stability of nomenclature, we propose that *Tenthredo montana* Scopoli, 1763 be designated the type species of *Macrophya*. As stated in para. 8 above, this is the taxonomic species which before 1934 was called *M. rustica*.

12. Since 1934 (Malaise & Benson's publication), the specific name of *Tenthredo rustica* Linnaeus, 1758 has been used for a well-known and widespread species of *Arge* Schrank, 1802, which was formerly known as *Arge* (or *Hylotoma*) *atrata* (Forster, 1771) (see paras. 4 and 5 above). To ensure the continuing clarity, security and stability of uniform usage of *Arge rustica* (Linnaeus, 1758) we propose that the syntypes (see para. 4 above) be set aside and that a neotype be designated in accord with the current usage of the name. The proposed female neotype is labelled as follows: '*Hylotoma atrata* Forst. Schwerin'; 'coll. Konow'; 'Neotype [female] *Tenthredo rustica* Linné, 1758'; '*Arge rustica* (Linné) [female] det. Blank & Taeger 1999'. It is deposited in the collection of the Deutsches Entomologisches Institut, Eberswalde, Germany. The species can be identified unambiguously using the keys of Enslin (1917, in which it is named *Arge atrata*), Gussakovskij (1935), Benson (1951), Ermolenko (1975, figs. 63–64 which show illustrations of both male and female specimens), Muche (1977) and Quinlan & Gauld (1981). *Arge rustica* (including the neotype) is unique among European species of the genus *Arge* in the conspicuous colour pattern of the abdomen of females (abdomen black, tergum 1 and terga 3-5 with light pattern). A representative list of a further 16 references, dating from 1957 to 1998, which demonstrate the current usage of the specific name *rustica* for a species of *Arge* is held by the Commission Secretariat.

13. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers:
  (a) to set aside all previous designations of type species for the nominal genus *Macrophya* Dahlbom, 1835 and to designate *Tenthredo montana* Scopoli, 1763 as the type species;
  (b) to set aside all previous type fixations for the nominal species *Tenthredo rustica* Linnaeus, 1758 and to designate the female specimen in the Deutsches Entomologisches Institut, Eberswalde, Germany, referred to in para. 12 above, as the neotype;

(2) to place on the Official List of Generic Names in Zoology the name *Macrophya* Dahlbom, 1835 (gender: feminine), type species by designation in (1)(a) above *Tenthredo montana* Scopoli, 1763;

(3) to place on the Official List of Specific Names in Zoology the following names:
  (a) *montana* Scopoli, 1763, as published in the binomen *Tenthredo montana* (specific name of the type species of *Macrophya* Dahlbom, 1835);
  (b) *rustica* Linnaeus, 1758, as published in the binomen *Tenthredo rustica* and as defined by the neotype designated in (1)(b) above.

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Case 3124

Apis proava Menge, 1856 (currently *Electrapis proava*; Insecta, Hymenoptera): proposed conservation by designation of a neotype

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Abstract. The purpose of this application is to provide stability to the name *Apis proava* Menge, 1856 for a species of fossil bee occurring in the Eocene fauna of Europe. The lectotype designated by Zeuner & Manning (1976) is now in extremely poor condition and little information on the bee's identity can be gleaned from this specimen. The paralectotype, however, is in relatively good condition and can be confidently assigned. It is proposed that the original lectotype designation be set aside and the paralectotype be designated as neotype, thereby stabilizing the identity of *Apis proava*.

Keywords. Nomenclature; taxonomy; Hymenoptera; APIDAE; fossil bees; Baltic amber; Eocene; *Apis proava*.

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1. Menge (1856, p. 26) established the name *Apis proava* for a species of fossil bee preserved in Eocene Baltic amber. The description was based on two specimens, neither of which was designated as the type.

2. Zeuner & Manning (1976, pp. 236–238), in a monographic study of the fossil bees of the world published posthumously from accumulated notes, identified as Menge's original specimens two fossil bees in the Palaeontology Department of the Natural History Museum, London, which had been bought in 1892. Zeuner & Manning (p. 236) designated one specimen (BM(NH) In.43592) as the lectotype and the other (BM(NH) In.18757) as the paralectotype. They (p. 237) described the lectotype as being 'well preserved' but, owing to the removal of the amber piece from the block of balsam in which it was preserved, it is now in exceedingly poor condition. Zeuner & Manning transferred the species into the fossil genus *Electrapis* Cockerell, 1908, subgenus *Roussyana* Manning, 1960.

3. The name *Apis proava* Menge has been used by a number of authors (e.g., Buttel-Reepen, 1915; Kerr & da Cunha, 1976; Winston & Michener, 1977; Ruttner, 1988; a further list of nine references is held by the Commission Secretariat).

4. I (Engel, 1998, p. 95), while proposing a preliminary classification of bees considered to constitute the subtribe ELECTRAPINA Engel, 1998, provisionally transferred *Apis proava* into the new subgenus *Melikertes* Engel, 1998, together with the type species *E.* (*Melikertes*) *stilbonota* Engel, 1998. Zeuner & Manning's description of the lectotype consists of characters which are indicative only of higher-level placement at subfamily or tribe level or are meaningless, e.g., 'an antenna cleaner of a somewhat primitive type' (p. 237) with no indication of what 'primitive type' corresponds to morphologically. Similarly, their illustration (pl. 3, fig. 3) of the

lectotype does not help in identifying it below tribe level. In contrast, examination of the paralectotype shows that it clearly belongs to *Melikertes*; the transfer of *proava* was therefore made provisional since the actual nature of the lectotype (i.e., the name-bearing type) could not be confirmed.

5. The designated lectotype leaves the identity of *Apis proava* entirely ambiguous and stability of the name is lost. I am presently involved in a monographic study of the Baltic amber bees and propose the stabilization of *Apis proava* Menge by replacement of the unidentifiable name-bearing type by a neotype in accordance with Article 75.5 of the forthcoming 4th Edition of the Code. Recommendation 75A advises authors to choose neotypes from any surviving paralectotypes unless there are compelling reasons to the contrary. I therefore propose that the paralectotype (specimen BM(NH) In.18757), described and illustrated by Zeuner & Manning (1976, p. 237, pl. 3, fig. 4), should be designated as neotype.

6. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to set aside all previous fixations of type specimen for the nominal species *Apis proava* Menge, 1856 and to designate as neotype the paralectotype (specimen no. BM(NH) In.18757 in the Palaeontology Department, the Natural History Museum, London);

(2) to place on the Official List of Specific Names in Zoology the name *proava* Menge, 1856, as published in the binomen *Apis proava* and as defined by the neotype designated in (1) above.

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Case 3058

Arctocephalus F. Cuvier, 1826 and *Callorhinus* Gray, 1859 (Mammalia, Pinnipedia): proposed conservation by the designation of *Phoca pusilla* Schreber, [1775] as the type species of *Arctocephalus*; and *Otaria* Péron, 1816 and *Eumetopias* Gill, 1866: proposed conservation by the designation of *Phoca leonina* Molina, 1782 as the type species of *Otaria*

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Abstract. The purpose of this application is to conserve the accustomed understanding and usage of the fur seal name *Arctocephalus* F. Cuvier, 1826 by the designation of *Phoca pusilla* Schreber, [1775] as the type species, thus conserving also the name *Callorhinus* Gray, 1859. At present *Phoca ursina* Linnaeus, 1758 is the valid type species of both *Arctocephalus* and *Callorhinus*. The name *Arctocephalus* relates to a genus of some seven fur seals from the southern hemisphere, while *Callorhinus* is used for the single species *C. ursinus* (Linnaeus) from the northern hemisphere. It is also proposed that the universal understanding of the names *Otaria* Péron, 1816 and *Eumetopias* Gill, 1866 should be conserved for the southern and northern sea lions respectively by designating *Phoca leonina* Molina, 1782 (for which the valid specific name is *P. byronia* de Blainville, 1820) as the type species of *Otaria*. At present *Phoca jubata* Schreber, [1776] is the type species of *Otaria* and the name *Otaria* is a senior subjective synonym of *Eumetopias*. The four genera *Arctocephalus*, *Callorhinus*, *Otaria* and *Eumetopias* are all placed in the family OTARIIDAE Gray, 1825.

Keywords. Nomenclature; taxonomy; Mammalia; Pinnepedia; OTARIIDAE; eared seals; fur seals; sea lions; *Arctocephalus*; *Callorhinus*; *Otaria*; *Eumetopias*; *Arctocephalus pusillus*; *Callorhinus ursinus*; *Otaria leonina*; *Otaria byronia*; *Eumetopias jubata*.

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1. Péron (1816, p. 37, footnote) proposed the name *Otaria* for the eared fur seals and sea lions and was the first to separate these from the earless seals (*Phoca* Linnaeus, 1758). He included five species in *Otaria*, among them *Phoca ursina* Linnaeus, 1758, *P. leonina* Molina, 1782 (nec *P. leonina* Linnaeus, 1758, the elephant seal) and *P. jubata* Schreber, [1776], but he did not designate a type species.

2. G. Cuvier (1817, pp. 166–167) referred to Péron's name for eared seals as 'Les Phoques à oreilles extérieures (Otaries. Péron)' and recognized only two species of eared seals, *Phoca jubata* 'Gmelin, 1788' (sea lions) and *P. ursina* 'Gmelin, 1788' (fur seals).

3. Fischer (1817, p. 445), citing 'Otaries Péron. Les phoques à oreilles. Cuv. Regne An. 1., p. 166,' proposed the name *Otoes* for the eared seals that G. Cuvier had identified as *Phoca jubata* and *P. ursina*; he did not designate a type species.

4. F. Cuvier (1824) divided the seals into seven generic groups and gave a description, illustration and type species for each. However, for each generic group he used only a French vernacular, including 'Arctocéphale'. The type species of this genus was given (p. 208) as *Phoca ursina* Linnaeus, 1758 (p. 37), which was based on Steller's (1751, p. 331, pl. 15) 'Ursus marinus' from the Bering Sea. In 1826 F. Cuvier referred (p. 541) to his previous (1824) publication, summarised the characteristics of each generic group, and adopted Latinized names, including (p. 554) that of *Arctocephalus*, which is available from this authorship and date. F. Cuvier wrote (p. 553): 'Le type de ce genre nous est offert par l'ours marin, *Phoca ursina*, Linn. ...'. He listed only one species (p. 554): 'L'Arctocéphale oursin: *Arctocephalus ursinus*; *Ursus marinus* Steller, *Novi comment. petrop.*, II, p. 331; Buff., Suppl. 6, pl. 47', and noted that 'Steller a trouvé cette éspèce dans les îles Aleutiennes, et on pourrait croire qu'elle a été retrouvée par Pernetti aux îles Malouines [Malvinas or Falklands], et par Forster au Cap'. Clearly he believed there was only one species of *Arctocephalus* with a distribution in both hemispheres.

5. Allen (1870, 1880, 1902, 1905), Gill (1866), Gray (1866a, 1866b, 1869), Peters (1866) and Trouessart (1897, 1904) dated *Arctocephalus* from F. Cuvier's (1824) use of the name 'Arctocéphale', following a common practice of the day to use names in their Latinized form but to date them from their first appearance as vernaculars.

6. Gray (1859c, p. 359) proposed the name *Callorhinus* for the species of fur seal which he had earlier (1859a, p. 103, pl. 68; 1859b, p. 108) identified and described as *Arctocephalus ursinus* (= *Phoca ursina* Linnaeus, 1758). He separated *ursinus* from other *Arctocephalus* species on the basis of its distinctive skull features and, contrary to Cuvier's type species designation (see para. 4 above), retained the name *Arctocephalus* for species of fur seals from the southern hemisphere.

7. The usage of the names *Arctocephalus* F. Cuvier, 1826 and *Callorhinus* Gray, 1859 has been retained since Gray (1859); see, for example, the following well-known checklists of Simpson (1945, p. 121), Ellerman & Morrison-Scott (1951, p. 322), Ellerman, Morrison-Scott & Hayman (1953, pp. 152–153), Nel in Meester & Setzer (1971), Corbet (1978, p. 186), Corbet & Hill (1986, p. 120) and Wozencraft in Wilson & Reeder (1993). The name *Arctocephalus* currently relates to some seven species of fur seals from the southern hemisphere, and *Callorhinus* is used for the single species *C. ursinus* (Linnaeus, 1758) from the northern hemisphere. However, both genera were based on *Phoca ursina* Linnaeus and the name *Callorhinus* is thus formally a junior objective synonym of *Arctocephalus*. We propose that *Phoca pusilla* Schreber, [1775] (p. 314 [1776], pl. 85 [1775]), the South African fur seal, be designated the type species of *Arctocephalus* in accord with usage (see, for example, Ellerman, Morrison-Scott & Hayman, 1953; Wozencraft in Wilson & Reeder, 1993). This designation will remove the synonymy and allow the long usage of both generic names to be maintained.

8. Four genus-group names were proposed in 1866 for southern fur seals:

(1) *Halarctus* Gill, 1866 (p. 7), type species *Arctocephalus delalandii* Gray, 1859b (an unnecessary replacement name for *Otaria pusilla* Schreber, [1775]) by monotypy and original designation. Published April 1866.

(2) *Arctophoca* Peters, 1866 (p. 276), type species *Otaria philippii* Peters, 1866 by monotypy (described as a subgenus of *Otaria* Péron, 1816). This description appeared in the May issue of the *Monatsberichte der Königlich Akademie der Wissenschaften zu Berlin*; it probably appeared at the end of May or shortly thereafter, but before September when cited by Gray (1866c, p. 228).

(3) *Euotaria* Gray, 1866c (p. 236), type species *Arctocephalus nigrescens* Gray, 1859b (a junior synonym of *Phoca australis* Zimmermann, 1783) by monotypy (described as a subgenus of *Arctocephalus* F. Cuvier, 1826). Published September 1866.

(4) *Gypsophoca* Gray, 1866c (p. 236), type species *Arctocephalus cinereus* Gray, 1866a (a junior synonym of *Otaria forsteri* Lesson, 1828) by monotypy (described as a subgenus of *Arctocephalus* F. Cuvier, 1826). Published September 1866.

Thus, four generic names subsequent to *Arctocephalus* F. Cuvier, 1826 are available for the fur seals of the southern hemisphere. However, *Arctocephalus* has been nearly universally applied to these fur seals for at least 150 years (see para. 7 above) and to substitute *Halarctus* Gill, 1866 or any other of the junior synonyms for this well-known name would be certain to create confusion.

9. Palmer (1892, p. 156) proposed the name *Callotaria* as a replacement name for *Callorhinus* Gray, 1859 on the assumption that *Callorhinus* was preoccupied by *Callirhinus* Blanchard, 1850 (a beetle genus) and *Callirhinus* Girard, 1857 (a snake). He (Palmer, 1901) subsequently pointed out that his replacement name was unnecessary because *Otoes* Fischer, 1817 was available and antedated *Callorhinus* Gray, 1859 (see para. 3 above). Palmer (1901, p. 134) adopted the name *Otoes* for the northern fur seal and designated '*Phoca ursina* Gmelin (= *Phoca ursina* Linn.)' as the type species. Allen (1902, p. 116; see also 1905) disagreed with Palmer's designation, claiming that *Phoca jubata* and *Phoca ursina* as used by Fischer (1817) were composite and that '*Otoes* is unavailable for the *Callotaria* group, since if one name can ever be considered as a synonym of another, it is evident that *Otoes* and *Otaria* holds such a relation'. Subsequent authors (including Palmer, 1904, p. 488) acquiesced in Allen's argument and listed *Otoes* Fischer as a synonym of *Otaria* Péron (see, for example, Cabrera, 1958, p. 301). Nevertheless, Palmer's (1901) type species designation is valid and *Otoes* Fischer, 1817 is the oldest available generic name for the northern fur seal. However, this seal has been almost universally known by the name *Callorhinus* Gray, 1859 and, considering the voluminous literature on it, adoption of the generic name *Otoes* would certainly create confusion. We propose that the name *Otoes* Fischer, 1817 be suppressed.

10. The name *Otaria* Péron, 1816 relates to sea lions, not fur seals. It is the basis of the family OTARIIDAE Gray, 1825, which includes *Arctocephalus* F. Cuvier, 1826 and *Callorhinus* Gray, 1859, as well as *Otaria*. Palmer (1904, p. 486) designated *Otaria leonina* 'Péron' (i.e. *Phoca leonina* Molina, 1782, p. 282, a junior primary homonym of *P. leonina* Linnaeus, 1758, the elephant seal) as the type species of *Otaria*, in which sense the name is consistently used (the valid specific name for this

species is that of *Phoca byronia* de Blainville, 1820a, pp. 287, 300; 1820b, p. 419, fig. 3). However, recognition of an earlier type species designation for *Otaria* by Gill (1866, p. 7) of *Phoca jubata* Schreber, [1776] would render the name *Otaria* a senior subjective synonym of *Eumetopias* Gill, 1866 (p. 7), which is in use for the monospecific northern sea lion genus. The genus *Eumetopias* was based on *Arctocephalus monteriensis* Gray, 1859c (p. 358, pl. 72), a junior synonym of *Phoca jubata* Schreber, [1776] (p. 300, pl. 83B). The latter is the first available name for Steller's (1751, p. 360) sea lion 'Leo marinus' from Kamchatka and the Bering Strait area. We propose that *Phoca leonina* Molina, 1782 be designated the type species of *Otaria* in accord with universal usage.

11. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers:
   (a) to suppress the name *Otoes* Fischer, 1817 for the purposes of the Principle of Priority but not for those of the Principle of Homonymy;
   (b) to set aside all previous type species fixations for the nominal genus *Arctocephalus* F. Cuvier, 1826 and to designate *Phoca pusilla* Schreber, [1775] as the type species;
   (c) to set aside all previous type species fixations for the nominal genus *Otaria* Péron, 1816 and to designate *Phoca leonina* Molina, 1782 as the type species;

(2) to place on the Official List of Generic Names in Zoology the following names:
   (a) *Arctocephalus* F. Cuvier, 1826 (gender: masculine), type species by designation under the plenary powers in (1)(b) above *Phoca pusilla* Schreber, [1775];
   (b) *Callorhinus* Gray, 1859 (gender: masculine), type species by monotypy *Phoca ursina* Linnaeus, 1758;
   (c) *Otaria* Péron, 1816 (gender: feminine), type species by designation under the plenary powers in (1)(c) above *Phoca leonina* Molina, 1782 (invalid senior subjective synonym of *Phoca byronia* de Blainville, 1820);
   (d) *Eumetopias* Gill, 1866 (gender: masculine), type species by monotypy *Arctocephalus monteriensis* Gray, 1859 (a junior subjective synonym of *Phoca jubata* Schreber, [1776]);

(3) to place on the Official List of Specific Names in Zoology the following names:
   (a) *pusilla* Schreber, [1775], as published in the binomen *Phoca pusilla* (specific name of the type species of *Arctocephalus* F. Cuvier, 1826);
   (b) *ursina* Linnaeus, 1758, as published in the binomen *Phoca ursina* (specific name of the type species of *Callorhinus* Gray, 1859);
   (c) *byronia* de Blainville, 1820, as published in the binomen *Phoca byronia* (first available subjective synonym of *Phoca leonina* Molina, 1782, the type species of *Otaria* Péron, 1816);
   (d) *jubata* Schreber, [1776], as published in the binomen *Phoca jubata* (senior subjective synoym of *Arctocephalus monteriensis* Gray, 1859, the type species of *Eumetopias* Gill, 1866);

(4) to place on the Official List of Rejected and Invalid Generic Names in Zoology the following names:
   (a) *Otoes* Fischer, 1817, as suppressed in (1)(a) above;

(b) *Halarctus* Gill, 1866 (a junior objective synonym of *Arctocephalus* F. Cuvier, 1826);

(c) *Callotaria* Palmer, 1892 (a junior objective synonym of *Callorhinus* Gray, 1859).

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Comment on the proposed conservation of the specific names of *Strombidium gyrans* Stokes, 1887 (currently *Strobilidium gyrans*) and *Strobilidium caudatum* Kahl, 1932 (Ciliophora, Oligotrichida)
(Case 3011; see BZN **55**: 6–8, 233–235; **56**: 48–49)

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The reply by Heckman (BZN **56**: 48–49) to the two comments by Corliss and myself (BZN **55**: 233–236) adds little to the matter addressed in Case 3011 but is, in part, incorrect and unnecessarily polemic. Specifically, I want to address the following points:

1. If students have problems with the changing names of organisms, then their teachers should explain that taxonomy and nomenclature are not static but living disciplines. Heckman's discussion is too general and, for instance, does not take into account that students of biology have to change from the vernacular names, with which they are familiar, to binominal nomenclature.

2. When Petz & Foissner (1992) established the replacement name *Strobilidium kahli*, it was not known that the species belonged to *Rimostrombidium*, as recently shown by Agatha & Riedel-Lorje (1998); the action by Petz and myself was in accordance with the state of knowledge at the time and with the Code. Such changes, which result from progress in taxonomy, are common in nomenclature.

3. The original descriptions of *Strombidion caudatum* Fromentel, 1876 and *Strombidium gyrans* Stokes, 1887 are of a similar detail and quality, while the description of *Trichoda cometa* Müller, 1773 is, understandably, much more incomplete and hardly assignable. Accordingly, Kahl's preference for Stokes's junior synonym was a mistake. This is why I emphasised in my first comment (BZN **55**: 233) that Heckman's proposal relates mainly to a taxonomic and not a nomenclatural problem. It may happen that further research shows that the European and American '*Strobilidium caudatum*' belong to different species. In that case, Stokes's name would need to be resurrected. Heckman appears not to accept that subjective synonymy is never definitive and that a comprehensive description of the American *Strombidium gyrans* has not yet been undertaken.

4. Heckman is incorrect in stating that our four-volume monograph on the ciliates used as bioindicators is 'grey literature'. Each of these volumes, published in the series *Informationsberichte des Bayerisches Landesamtes für Wasserwirtschaft*, has an ISSN number (0176–4217), is indexed in *Zoological Record*, is obtainable by purchase, and was printed in 1200 copies, most of which have already been sold and are used by workers worldwide.

5. I fully agree with Corliss's comment (BZN **55**: 233–236) and emphasise that, if priority and taxonomy were to be restricted in the way proposed by Heckman, a chaotic situation would result in protist nomenclature and taxonomy, which are still poorly explored. Only by a strict application of the Code can some stability be reached eventually.

Comments on the proposed conservation of *Hydrobia* Hartmann, 1821 (Mollusca, Gastropoda) and *Cyclostoma acutum* Draparnaud, 1805 (currently *Hydrobia acuta*) by the replacement of the lectotype of *H. acuta* with a neotype; proposed designation of *Turbo ventrosus* Montagu, 1803 as the type species of *Ventrosia* Radoman, 1977; and proposed emendation of spelling of HYDROBIINA Mulsant, 1844 (Insecta, Coleoptera) to HYDROBIUSINA, so removing the homonymy with HYDROBIIDAE Troschel, 1857 (Mollusca)

(Case 3087; see BZN **55**: 139–145; **56**: 56–63)

(1) F. Naggs, P.B. Mordan, D.G. Reid and K.M. Way

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The application by Prof F. Giusti, Dr Giuseppe Manganelli and Dr Marco Bodon, published in BZN **55**: 139–145, raises a number of important issues involving nomenclatural procedures and practice that merit discussion beyond the immediate issue of nomenclature within the HYDROBIIDAE.

If the material of *Cyclostoma acutum* Draparnaud, 1805 at the Muséum National d'Histoire Naturelle in Paris is part of the type series then Boeters (1984) followed a correct nomenclatural procedure. There is no conflict with historical usage or understanding; only the limited literature since Mars (1966) and Radoman (1977) is affected. The overturning of this position should only be considered if there is overwhelming support among interested parties. The onus is on those wishing to set aside the Code to demonstrate that there is such support.

The (1998) publication by Giusti, Manganelli & Bodon in the *Journal of Conchology* has raised our concern. In our view the presentation and tenor of this paper goes beyond presenting the authors' case for setting aside the existing lectotype of *Hydrobia acuta* and designating a neotype to the extent of appearing to pre-empt the Commission's decision on the issue. In particular, the title appears as 'A proposed neotype for *Hydrobia acuta*', and a heading on p. 7 of the paper as 'A neotype for *Hydrobia acuta*'. On entering the literature such a title can only mislead and cause confusion.

With regard to the proposed designation of a neotype for *Hydrobia acuta*, we strongly object to the proposal by Giusti et al. in their application to establish a new specimen as the neotype, as opposed to designating an appropriate lectotype from among the available series of 74 paralectotypes. Unfortunately the authors do not explicitly justify their proposal, but the implication is that dry shell material is inadequate for typification of *Cyclostoma acutum*. Nevertheless, this is clearly not the case since Giusti et al. (1998) stated that the Paris paralectotype illustrated by Boeters (1984) 'can be clearly identified as *H. acuta* sensu Mars (1966) and sensu Radoman (1977) by virtue of its flat whorls and superficial sutures'. Evidently, designation of one of the remaining paralectotypes of *H. acuta* would adequately serve their nomenclatural intention in this case.

The vast majority of gastropod species are based on type material consisting of shells alone. Clearly, in order to facilitate identification it is desirable to associate critical anatomical features (and genetic information) with particular nominal species. However, in most cases this can be achieved unambiguously by reference to

shell morphology. It is unnecessary and irresponsible to erect a neotype simply because an anatomical character allows for more ready determination. Such an action should be reserved for those cases in which shell material is genuinely inadequate for unequivocal identification.

In general, the Commission should not accept the setting aside of a type series solely because a new character is thought to allow a more straightforward discrimination among similar species. Such a case could be made for a large number of gastropod taxa but this would encourage bad practice by obviating the need for critical evaluation of existing type specimens. Type series that can continue to fulfil the function of providing a stable basis for species nomenclature must not be set aside or nomenclatural stability will be compromised.

(2) Folco Giusti, Giuseppe Manganelli and Marco Bodon

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Our application (published in BZN **55**: 139–145) has gained the support of Dr D.F. Hoeksema and of Dr D. Kadolsky (comments published in BZN **56**: 62–63), but our proposal to set aside the lectotype for *Hydrobia acuta* (Draparnaud, 1805) designated by Boeters (1984) and to replace it with a neotype in keeping with the past and current understanding of *H. acuta* and of *Hydrobia* Hartman, 1821 has been opposed by Dr H.D. Boeters and his co-authors (BZN **56**: 57–62) and by Mr F. Naggs and his co-authors (their comment above). Boeters et al. and Naggs et al. proposed the retention of Boeter's lectotype of *H. acuta*, which (as Boeters et al. agree) is a specimen of *Hydrobia* (or *Ventrosia*) *ventrosa* Montagu, 1803 as understood by all authors. As noted in para. 8 of our application, this would result in the specific name *ventrosa* becoming a senior synonym of *acuta* and a new name being required for *acuta* as currently understood by almost all authors. Moreover, if the proposed designation of *ventrosa* as the type species of *Ventrosia* Radoman, 1977 is approved by the Commission, recognition of *ventrosa* as a senior synonym of *acuta*, as required by Boeters's (1984) action, would render the name *Hydrobia* a senior synonym of *Ventrosia* and a new name would be needed for the much-used *Hydrobia* of authors if the two taxa are placed in separate genera (see below). Boeters (1984) and Boeters et al. (para. B5 of their comment) suggested *Obrovia* Radoman, 1974 as an available name, but this was synonymised with *Hydrobia* by Radoman himself (1977) and, to our knowledge, has never been used. In any case, there are a number of synonyms, mostly unused, earlier than *Obrovia*.

Our application set out to forestall the serious confusion and disruption that would result from the switch of the name *Hydrobia* to the genus currently called *Ventrosia*, the loss of the name *acuta* as a synonym of *ventrosa*, and the need to replace with new names those of *acuta* and *Hydrobia* as understood by the majority of authors.

The comment by Boeters et al. contains a number of factual errors and misunderstandings on the status of the two species *Hydrobia acuta* and *H.* (or *Ventrosia*) *ventrosa*. These have arisen through the omission of key works in the previous literature and a distorted view of the concepts of some early French authors.

Bouchet, Boeters et al. and Kadolsky (see BZN **56**: 57, 58 and 63 respectively), basing their remarks on Dollfus (1912), are convinced that two specimens in Paris are

syntypes of *Hydrobia acuta* (Draparnaud, 1805). Nevertheless, we feel the need to stress that these specimens appear to us to be rather different from the two syntypes photographed by Dollfus (1912, pl. 4, figs. 5–8). Comparison of Dollfus's figures with those of Boeters (1984, pl. 1a, figs. 1–2) and Giusti, Manganelli & Bodon (1998, figs. 1–2) has revealed that Dollfus's first specimen, as illustrated in his figs. 5 and 8, differs from the lectotype selected by Boeters (1984) by a less inflated and slightly convex last whorl, and also appears (Dollfus, fig. 5) to have a small breakage near the base of the external margin of the peristome. Comparison has also revealed that Dollfus's second specimen, as illustrated in figs. 6–7, was less acutely conical (i.e. more ovate) than the Paris paralectotype; the conical shape and poorly convex whorls suggest that both of Dollfus's figured specimens are *H. acuta* (see Giusti et al., 1998). The uncertainty of their status is why we (Giusti et al., 1998, p. 4) noted the specimens now in Paris as 'putative syntypes' and in our application (para. 6) recorded '... whether they were actually original specimens is impossible to determine'. However, the first specimen shows the initial whorls encrusted in a manner similar to that of the shell (in its original state; see Boeters, 1984, pl. 1a, fig. 1) selected as the lectotype by Boeters (1984), and there is a possibility that Dollfus's (1912) photographs were badly reproduced, giving rise to the artifacts noted above.

Boeters et al. (BZN **56**: 57, para. 1) claim that 'despite the statement by Giusti, Manganelli & Bodon (1998, p. 7), Boeters (1984) clearly emphasized that the lectotype and the paralectotype of *Cyclostoma acutum* are not conspecific'. In our view this is not at all clear. Boeters (1984, p. 4, last four lines) noted that 'Das grössere der beiden Gehäuse zeigt deutlich tiefere Nähte als das kleinere Gehäuse; man kann damit das grössere Gehäuse der vorstehend von mir gekennzeichneten Species 1 und das kleinere Gehäuse der Species 2 zuordnen', but in the caption to pl. 1a, figs. 1–2 he, confusingly, assigned both the syntypes to *Hydrobia acuta* and designated the larger specimen as the lectotype.

Only after a direct study of Boeters's lectotype did we (para. 7 of our application) realise that the specimen had the upper part of the spire encrusted so as to give an incorrect idea of the convexity of the whorls and the depth of the sutures, and were we able to demonstrate unequivocally, after the encrustations had been carefully removed, that the specimen was really one of *H. ventrosa*.

It is not correct that 'at least until 1977 (Radoman's paper), *Cyclostoma acutum* Draparnaud, 1805 was understood in different ways but always related to *Turbo ventrosus* Montagu, 1803' (para. A3 of the comment by Boeters et al.). As we (Giusti et al., 1998) reported, Mars (1966), the first author to produce determinations taking into account both shell and body characters, anticipated Radoman in clearly distinguishing *H. acuta* (pp. 237–243, fig. 14A, 1; shell oval-oblong, with poorly convex whorls; animal with tentacles having a subterminal transverse black bar, etc.) from *H. ventrosa* (pp. 243–245; fig 14C, 2; shell conical, with obviously convex whorls; animal with tentacles lacking subterminal transverse black bar, etc.). The subterminal transverse black bar on the tentacles is one of the diagnostic characters distinguishing *H. acuta* sensu Mars (1966) and Radoman (1977), and '*Hydrobia* sp.' of Boeters (1984), from *H. ventrosa* (see Paladilhe, 1874; Giusti & Pezzoli, 1984; Giusti, Manganelli & Schembri, 1995; Giusti et al., 1998). In relation to *H. acuta*, Mars (1966, p. 238) noted that (in translation) 'the figure provided by Draparnaud, even if imperfect, shows a shell with poorly convex whorls', i.e. the opposite of

Boeters's (1984) conclusion. Mars continued 'Dollfus figured some specimens of Draparnaud's collection which allow a complete definition. It is a very little shell (3.2 × 2 mm) with poorly convex whorls', demonstrating that his interpretation of *H. acuta* was in accord with that of earlier authors (because of the encrustations Mars accepted, as did Giusti & Pezzoli, 1984, that both syntypes figured by Dollfus, 1912 were *H. acuta*). Early in the century Dollfus (1912, pp. 248–252, fig. 1, pl. 4, figs. 5–8) had already reached a clear idea of the identity of *H. acuta* and considered it a species distinct from *H. ventrosa*, the latter (p. 250) 'with whorls even more convex'. It is noteworthy that this aspect of Dollfus's (1912) paper and Mars (1966) were not cited by Boeters (1984) and that Dollfus's concepts have been completely overturned in the comment by Boeters et al. Paladilhe (1870, p. 238), who was quoted by Mars (1966), also recognized *H. acuta* as having 'tours assez peu convexes'. Paladilhe (1870), Dollfus (1912), Germain (1931) and Mars (1966), all long before Radoman (1977), gave a list of characters (anatomical and conchological) sufficient to confirm the identify of the two distinct species *Cyclostoma acutum* Draparnaud, 1805 and *Turbo ventrosus* Montagu, 1803.

It is true that some early English authors (Forbes & Hanley, 1850, and Jeffreys, 1862, for example) considered *Cyclostoma acutum* Draparnaud to correspond to *Turbo ventrosus* Montagu, but there is no evidence that they derived their view from a study of the original material.

The British species studied and identified as *Paludestrina ventrosa* by Robson (1922), which was referred to by Boeters et al. in para. 4.2 of their comment, corresponds to *Turbo ventrosus* Montagu and to *Hydrobia* (or *Ventrosia*) *ventrosa* as understood by Dollfus (1912), Mars (1966), Radoman (1977), Giusti & Pezzoli (1984), Giusti, Manganelli & Schembri (1995) and Giusti et al. (1998).

The older literature contains many occasions on which both the species *Cyclostoma acutum* and *Turbo ventrosus* were moved from one genus to another (cf. para. A5 of the comment by Boeters et al.). It was Radoman (1977) who, having gained much experience of the anatomy of the HYDROBIIDAE, concluded that the differences between the two species were sufficient to place them in separate genera. His generic diagnoses remain the most clear and complete that have appeared so far. Radoman's taxonomic arrangement was not followed by Davis, McKee & Lopez (1989) and by Haase (1993), who considered *Ventrosia* Radoman, 1977 to be a junior synonym of *Hydrobia* Hartman, 1821 (see comments in Giusti, Manganelli & Schembri, 1995, p. 124). However, a recent genetic study by Thomas Wilke (personal communication, February 1999) supports the placement of the two species in separate genera.

No consequences arise from the point, made by Boeters et al. in para. B2 of their comment, that 'a penis having an 'intromittent portion ... long and pointed', as described by Robson (1922) for *Turbo ventrosus* Montagu, 1803, was considered to be characteristic not only for *Turbo ventrosus* but also of the genus *Hydrobia*, at least until 1977'. All the authors cited by Boeters at al. studied only *T. ventrosus* or *H. ulvae* (a species frequently included in the genus or subgenus *Peringia* Paladilhe, 1874), and no author had ever studied the genital anatomy of *Hydrobia acuta*, the type species of *Hydrobia*, until Radoman's (1977) paper. Since *H. ulvae* has a penis with a pointed tip it is not at all surprising that many authors believed the genus *Hydrobia* to be defined by this 'character'. In 1963, Muus published on the genital anatomy of *Hydrobia neglecta*, a nominal species recently recognized (see Hoeksema,

1998; Thomas Wilke, in preparation) as a junior synonym of *H. acuta*, and showed this to have a cylindrical penis with a fan-like apex.

It is unfortunate that Radoman (1977), having studied the anatomy of a number of hydrobiid taxa, did not fix the identity of *Hydrobia acuta* by designation of a lectotype, and even more unfortunate that Boeters (1984), in designating a lectotype, failed to consult all the available literature to gain an understanding of the nature of *H. acuta* and *V. ventrosa*. In no way has Boeters's (1984) lectotype designation 'not only stabilized the understanding of the identity of *Cyclostoma acutum* Draparnaud, 1805 but also that of *Hydrobia* Hartman, 1821', as claimed by Boeters et al. in para. B6 of their comment. On the contrary, recognition of the *H. acuta* lectotype designation very inappropriately made by Boeters (1984) would lead to confusion and instability in the understanding and nomenclature of these taxa, and also in *Ventrosia* and *V. ventrosa*. As we have pointed out above and in our application, it would result in the transfer of names (at both generic and specific levels) from one taxon to another, and the totally unnecessary requirement for new names. Our proposed replacement of Boeters's (1984) lectotype by a neotype from Draparnaud's putative type locality, recognisable both conchologically and anatomically, would confirm the past and current understanding of *H. acuta* and *V. ventrosa*, and of the genera *Hydrobia* and *Ventrosia*.

In reply to Naggs et al. (their comment above), we believe that the title 'A proposed neotype for *Hydrobia acuta* (Draparnaud, 1805)' of our (1998) publication, and the section heading (p. 7, 'A neotype for *Hydrobia acuta*'), are acceptable. The Abstract and text of the paper make very clear the circumstances of the proposed neotype, cite our application to the Commission, note that setting aside Boeters's (1984) lectotype designation and designation of a neotype in line with the earlier and more widely accepted usage of the name are proposed in our application, and that both actions require Commission approval. The third paragraph under the section heading (p. 7) begins 'The proposed neotype ...'.

In relation to our choice of specimen as the proposed name-bearing type of *Hydrobia acuta* (cf. the comment above by Naggs et al.), we note that Recommendation 75A of the Code states that 'a neotype for a nominal species-group taxon should be chosen from any surviving paratypes or paralectotypes, unless there are compelling reasons to the contrary ... Topotypic specimens from the type series should be given special preference'. In this case there are, indeed, 'compelling reasons' for not selecting one of the paralectotypes in Vienna or Paris, which lack all anatomical information, as the neotype. In our application (para. 4) we wrote that 'the status of *Hydrobia acuta* has remained controversial because of the impossibility of correct determination in the absence of anatomical information' and (para. 9) 'since this hydrobiid species is most easily identified by male anatomical characters, a male specimen has been selected as the neotype'. We have also noted above that 'the subterminal transverse black bar on the tentacles is one of the diagnostic characteristics distinguishing *H. acuta* sensu Mars (1966) and Radoman (1977)'. The two species *H. acuta* and *Ventrosia ventrosa* often have very similar shells and their differentiation is frequently possible only after anatomical studies (see Giusti & Pezzoli, 1984). The fact that in the case of the shells of the lectotype selected by Boeters (1984) and the Paris paralectotype recognition as distinct species has been possible is exceptional and not the rule. The male neotype proposed for *H. acuta*,

which has the shell and the anterior part of the body with penis, will provide much-needed anatomical information and unequivocally link this with the name, bringing stability to the identity and nomenclature of the taxon. The specimen is from the putative type locality of Étang du Prévost, near Palavas-les-Flots, Hérault, France.

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Comments on the proposed precedence of the specific name of *Crotalus ruber* Cope, 1892 over that of *Crotalus exsul* Garman, 1884 (Reptilia, Serpentes)
(Case 3005; see BZN **55**: 229–232)

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I write to support the application by Prof Hobart M. Smith and his co-authors to conserve the name *Crotalus ruber* Cope, 1892 by giving it precedence over *C. exsul* Garman, 1884 when the two taxa are considered to be conspecific. In my 1992 paper I may have inadvertantly suggested the opposite (para. 3 of the application), but I believe that the proposal of Smith at al. is far better for the maintenance of nomenclatural stability in herpetology.

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It is my view that the authors of the application should be supported in their proposal. The name *Crotalus ruber* has not only been used for a lengthy time but, since it refers to a venomous snake, it is involved in many medical and preventative materials. The removal of the name, and replacement with *C. exsul*, when the two taxa are treated as conspecific would bring about undue confusion, especially in non-herpetological circles.

(3) Wilmer W. Tanner

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I request that the Commission consider favorably the proposal to give the species name *Crotalus ruber* Cope precedence over *C. exsul* Garman if the two taxa are considered to be conspecific. Loss of the name *C. ruber* would not aid in a better understanding of *Crotalus* systematics, and would also result in a considerable curatorial problem throughout museum collections.

(4) Robert W. Murphy

Centre for Biodiversity and Conservation Biology, Royal Ontario Museum, 100 Queen's Park, Toronto, Ontario, Canada M5S 2C6

Smith et al. have argued lucidly for the conservation of the well known name *Crotalus ruber* Cope, 1892 for the red diamondback rattlesnake by giving it precedence over the less frequently used name *C. exsul* Garman, 1884. I give their application my full support.

Approval of the application is essential for maintaining a stable nomenclature, which is particularly critical for research and practice in medical sciences, legal protection and education. Although the literature is already becoming confused with inconsistent uses of the names (e.g. Wong, H., 1997, *Herpetological Review*, **28**: 188–189), the period of confusion is likely to be brief. Van Denburgh (1922, *Occasional Papers of the California Academy of Science*, **10**: 920) placed *C. ruber* in synonymy with *C. exsul* but this arrangement of names was not long perpetuated.

(5) Bayard H. Brattstrom

Department of Biological Science, McCarthy Hall 282, California State University, Fullerton, P.O. Box 6850, Fullerton, California 92834–6850, U.S.A.

I published on fossil pit-vipers, which included the red rattlesnake, *Crotalus ruber*, in 1954.

I published data on rattlesnake skulls, including the red rattlesnake, *Crotalus ruber*, in Klauber's classic two-volume work in 1956.

I published on the function of the lung in rattlesnakes, including the red rattlesnake, *Crotalus ruber*, in 1959.

I published my Ph.D. thesis on the evolution of the pit-vipers, including the relationship of the red rattlesnake, *Crotalus ruber*, to the other rattlesnakes, in 1964.

I published a large paper on the body temperature of reptiles, which included thermal data for the red rattlesnake, *Crotalus ruber*, in 1965.

I published a chapter in *Herpetology of the North American deserts* on the social behavior and habitat requirements of desert reptiles, which included information on the red rattlesnake, *Crotalus ruber*, in 1994.

I published a paper on forensic herpetology, involving an attempted murder by using a rattlesnake, in 1998. In the study we used a red rattlesnake, *Crotalus ruber*.

Thus, within my scientific career I, myself, have included information on the red rattlesnake using the name *Crotalus ruber* in papers on anatomy, paleontology, ecology, behavior, forensics, thermophysiology and conservation. The name *Crotalus ruber* is clearly well established in the literature of many different fields. I urge that stability of the nomenclature be maintained and that the name *C. ruber* be given precedence over *C. exsul* if the two taxa are regarded as synonyms.

(6) Support for the application has also been received from Dr Aurelio Ramirez-Bautista and Dr Julio Lemos Espinal (*Unidad de Biología, Tecnología, y Prototipos (UBIPRO), Unam. Av. de los Barrios s/n, Los Reyes Ixtacala, Tlalnepantla, estado de Méx. C.P. 54090, A.P. 314, Mexico*).

OPINION 1923

Trachelocerca Ehrenberg (Ciliophora): authorship conserved as Ehrenberg (1840), and *Vibrio sagitta* Müller, 1786 fixed as the type species

Keywords. Nomenclature; taxonomy; Protozoa; Ciliophora; Karyorelictea; *Trachelocerca*; *Trachelocerca sagitta*; marine ciliates.

Ruling

(1) Under the plenary powers the name *Trachelocerca* Ehrenberg, [1834] and all uses of that name prior to its publication by Ehrenberg (1840) are hereby suppressed for the purposes of both the Principle of Priority and the Principle of Homonymy.

(2) The name *Trachelocerca* Ehrenberg, 1840 (gender: feminine), type species by monotypy *Vibrio sagitta* Müller, 1786, is hereby placed on the Official List of Generic Names in Zoology.

(3) The name *sagitta* Müller, 1786, as published in the binomen *Vibrio sagitta* (specific name of the type species of *Trachelocerca* Ehrenberg, 1840), is hereby placed on the Official List of Specific Names in Zoology.

(4) The name *Trachelocerca* Ehrenberg, [1834] is hereby placed on the Official Index of Rejected and Invalid Generic Names in Zoology, as suppressed in (1) above.

History of Case 3035

An application for the conservation of *Trachelocerca*, with authorship of the name attributed to Ehrenberg (1840) and the type species fixed as *Vibrio sagitta* Müller, 1786, was received from Dr John O. Corliss (*Bala Cynwyd, Pennsylvania, U.S.A.*) and Prof Wilhelm Foissner (*Universität Salzburg, Institut für Zoologie, Salzburg, Austria*) on 19 November 1996. After correspondence the case was published in BZN **54**: 219–221 (December 1997). Notice of the case was sent to appropriate journals.

Decision of the Commission

On 1 September 1998 the members of the Commission were invited to vote on the proposals published in BZN **54**: 220. At the close of the voting period on 1 December 1998 the votes were as follows:

Affirmative votes — 17: Bock, Bouchet, Brothers, Cocks Cogger, Eschmeyer, Kabata, Macpherson, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Schuster

Negative votes — 3: Dupuis, Mahnert and Štys.

No votes were received from Lehtinen, Kerzhner, Kraus and Song.

Heppell and Ride were on leave of absence.

Voting for, Bouchet commented: 'I regret that the application contains so few references to document the usage of *Trachelocerca* Ehrenberg, 1840'. Voting against, Mahnert commented: 'Natural priority should prevail in this case; the taxa involved are not of economic or medical importance, are of limited geographical distribution

and synonyms exist for *Trachelocerca* Ehrenberg, 1840 (para. 7 of the application). The necessary nomenclatural changes would concern only a limited number of specialists'.

Original references

The following are the original references to the names placed on Official Lists and an Official Index by the ruling given in the present Opinion:

Trachelocerca Ehrenberg, [1834], *Abhandlungen der Preussischen Akademie der Wissenschaften zu Berlin*, **1833**: 316. [Issued in the serial in 1835 but published as a separate in 1834].

Trachelocerca Ehrenberg, 1840, *Monatsberichte und Verhandlungen der Königlichen Preussischen Akademie der Wissenschaften zu Berlin*, **1840**: 202.

sagitta, *Vibrio*, Müller, 1786, *Animalcula Infusoria fluviatilia et marina* ..., p. 59.

OPINION 1924

Helix draparnaudi Beck, 1837 (currently *Oxychilus draparnaudi*; Mollusca, Gastropoda): specific name conserved

Keywords. Nomenclature; taxonomy; Gastropoda; ZONITIDAE; *Oxychilus draparnaudi*.

Ruling

(1) Under the plenary powers the following specific names are hereby suppressed for the purposes of both the Principle of Priority and the Principle of Homonymy:
   (a) *draparnaldi* Cuvier, 1816, as published in the binomen *Helix draparnaldi*;
   (b) *draparnaudi* Sheppard, 1823, as published in the binomen *Helix draparnaudi*, and all other uses of the names *draparnaldi* and *draparnaudi* published in combination with *Helix* before the publication of *Helix draparnaldi* Beck, 1837 (corrected in Opinion 336 to *H. draparnaudi*).

(2) The entries for the names *draparnaudi* and *draparnaldi* Beck, 1837 on the Official List and the Official Index of Specific Names in Zoology are hereby corrected to record that the original generic combination was with *Helix* and not with *Helicella*.

(3) The following names are hereby placed on the Official Index of Rejected and Invalid Specific Names in Zoology:
   (a) *draparnaldi* Cuvier, 1816, as published in the binomen *Helix draparnaldi* and as suppressed in (1)(a) above;
   (b) *draparnaudi* Sheppard, 1823, as published in the binomen *Helix draparnaudi* and as suppressed in (1)(b) above.

History of Case 3013

An application for the conservation of the specific name of *Helix draparnaudi* Beck, 1837 was received from Dr G. Manganelli & Prof F. Giusti (*Università di Siena, Siena, Italy*) on 15 February 1995. After correspondence the case was published in BZN **54**: 148–151 (September 1997). Notice of the case was sent to appropriate journals.

It was noted on the voting paper that support for the correction of the entries on the Official List and Official Index for the specific names *draparnaudi* and *draparnaldi* Beck, 1837, to record that the original combination was with *Helix* and not with *Helicella*, was received from Prof Adolf Riedel (*Museum and Institute of Zoology, Polish Academy of Sciences, Warsaw, Poland*).

It was also noted that, with the exception of two references from 1930 and 1933, the references held by the Commission Secretariat which demonstrated the usage of the specific name of *Oxychilus draparnaudi* (para. 8 of the application) dated from 1960 to 1995.

The specific name of *draparnaudi* Beck, 1837, and its original spelling *draparnaldi*, were placed on the Official List and Official Index respectively in Opinion 336 (March

1955). However, the original combinations were given wrongly as *Helicella draparnaudi* and *draparnaldi*, and not *Helix draparnaudi* and *draparnaldi*, and the senior primary homonyms *Helix draparnaudi* Sheppard, 1823 and *Helix draparnaldi* Cuvier, 1816 were not then considered.

Decision of the Commission

On 1 September 1998 the members of the Commission were invited to vote on the proposals published in BZN **54**: 150. At the close of the voting period on 1 December 1998 the votes were as follows:

Affirmative votes — 20: Bock, Bouchet, Brothers, Cocks, Cogger, Dupuis, Eschmeyer, Kabata, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Schuster, Štys

Negative votes — none.

No votes were received from Lehtinen, Kerzhner, Kraus and Song.

Heppell and Ride were on leave of absence.

Original references

The following are the original references to the names placed on an Official Index, and to the emended entries on the Official List and Official Index for *Helix draparnaudi* and *draparnaldi* Beck, 1837 respectively, by the ruling given in the present Opinion:

draparnaldi, *Helix*, Beck, 1837, *Index molluscorum* ..., p. 6 (original spelling).

draparnaldi, *Helix*, Cuvier, 1816, *Le règne animal distribué d'aprés son organisation* ..., vol. 2, p. 405, footnote 5.

draparnaudi, *Helix*, Beck, 1837, *Index molluscorum* ..., p. 6 (emended spelling accepted in Opinion 336).

draparnaudi, *Helix*, Sheppard, 1823, *Transactions of the Linnean Society of London*, **14**: 158.

OPINION 1925

Turrilites gravesianus d'Orbigny, 1842 (currently *Hypoturrilites gravesianus*; Mollusca, Ammonoidea): specific name conserved and a replacement lectotype designated; *Turrilites tuberculatus* Bosc, [1802] (currently *Hypoturrilites tuberculatus*): placed on the Official List

Keywords. Nomenclature; taxonomy; Cephalopoda; Ammonoidea; Upper Cretaceous; ammonites; *Hypoturrilites*; *Hypoturrilites gravesianus*; *Hypoturrilites tuberculatus*.

Ruling

(1) Under the plenary powers:
  (a) the specific name *giganteus* de Haan, 1825, as published in the binomen *Turrilites giganteus*, is hereby suppressed for the purposes of the Principle of Priority but not for those of the Principle of Homonymy;
  (b) all previous type fixations for the nominal species *Turrilites gravesianus* d'Orbigny, 1842 are hereby set aside and specimen no. BMNH C5762b in the collections of the Natural History Museum, London, is designated as the lectotype.

(2) The name *Hypoturrilites* Dubourdieu, 1953 (gender: masculine), type species by original designation *Turrilites gravesianus* d'Orbigny, 1842, is hereby placed on the Official List of Generic Names in Zoology.

(3) The following names are hereby placed on the Official List of Specific Names in Zoology:
  (a) *gravesianus* d'Orbigny, 1842, as published in the binomen *Turrilites gravesianus* and as defined by the lectotype designated in (1)(b) above (specific name of the type species of *Hypoturrilites* Dubourdieu, 1953);
  (b) *tuberculatus* Bosc, [1802], as published in the binomen *Turrilites tuberculata* (recte *tuberculatus*) and as defined by the neotype (specimen no. BMNH C5762a in the collections of the Natural History Museum, London) designated by Kennedy & Wright (1997).

(4) The name *giganteus* de Haan, 1825, as published in the binomen *Turrilites giganteus* and as suppressed in (1)(a) above, is hereby placed on the Official Index of Rejected and Invalid Names in Zoology.

History of Case 2948

An application to conserve the specific name of *Turrilites gravesianus* d'Orbigny, 1842, defined by a replacement lectotype, and to place *T. tuberculatus* Bosc, [1802] on the Official List defined by the neotype designated by Kennedy & Wright (1997), was received from Prof W.J. Kennedy (*University Museum, Oxford, U.K.*) and Dr C.W. Wright (then of *Seaborough, Beaminster, Dorset, U.K.*) on 26 August 1994. After correspondence the case was published in BZN **54**: 222–225 (December 1997). Notice of the case was sent to appropriate journals.

Decision of the Commission

On 1 September 1998 the members of the Commission were invited to vote on the proposals published in BZN **54**: 224. At the close of the voting period on 1 December 1998 the votes were as follows:

Affirmative votes — 18: Bock, Brothers, Cocks, Cogger, Eschmeyer, Kabata, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Schuster, Štys

Negative votes — 1: Dupuis.

Bouchet abstained.

No votes were received from Lehtinen, Kerzhner, Kraus and Song.

Heppell and Ride were on leave of absence.

Bouchet commented that, in his view, the application contained insufficient information about the usage of names to allow a vote.

Original references

The following are the original references to the names placed on Official Lists and an Official Index by the ruling given in the present Opinion:

giganteus, *Turrilites*, de Haan, 1825, *Specimen Philosophicum Inaugurale. Exhibens Monographiae Ammoniteorum et Goniatiteorum* ..., p. 78.

gravesianus, *Turrilites*, d'Orbigny, 1842, *in*: *Paléontologie Française; Terrains Crétacés. I. Céphalopodes*, p. 596.

Hypoturrilites Dubourdieu, 1953, *Bulletin du Service de la Carte Géologique de l'Algérie*, series 1 (Paléontologie), **16**: 44.

tuberculatus, *Turrilites*, Bosc, [1802], *Histoire naturelle des coquilles*, vol. 5. *In: Histoire naturelle de Buffon, classée . . . d'après le système de Linné, par R. R. Castel.* P. 189, pl. 42, fig. 8.

The following is the reference for the designation of the neotype of *Turrilites tuberculatus* Bosc, [1802]:

Kennedy, W.J & Wright, C.W. 1997. BZN **54**: 224.

OPINION 1926

DASYPODIDAE Börner, 1919 (Insecta, Hymenoptera): spelling emended to DASYPODAIDAE, so removing the homonymy with DASYPODIDAE Gray, 1821 (Mammalia, Xenarthra)

Keywords. Nomenclature; taxonomy; Hymenoptera; Mammalia; Xenarthra; bees; armadillos; DASYPODAIDAE; DASYPODIDAE; *Dasypoda*; *Dasypus*.

Ruling

(1) Under the plenary powers it is hereby ruled that for the purposes of Article 29 of the Code the stem of the generic name *Dasypoda* Latreille, 1802 (Hymenoptera) is DASYPODA-.

(2) The following names are hereby placed on the Official List of Generic Names in Zoology:
   (a) *Dasypus* Linnaeus, 1758 (gender: masculine), type species by Linnaean tautonomy *Dasypus novemcinctus* Linnaeus, 1758 (Xenarthra);
   (b) *Dasypoda* Latreille, 1802 (gender: feminine), type species by subsequent designation by Blanchard (1840) *Andrena hirtipes* Fabricius, 1793 (Hymenoptera).

(3) The following names are hereby placed on the Official List of Specific Names in Zoology:
   (a) *novemcinctus* Linnaeus, 1758, as published in the binomen *Dasypus novemcinctus* (specific name of the type species of *Dasypus* Linnaeus, 1758) (Xenarthra);
   (b) *hirtipes* Fabricius, 1793, as published in the binomen *Andrena hirtipes* (specific name of the type species of *Dasypoda* Latreille, 1802) (Hymenoptera).

(4) The following names are hereby placed on the Official List of Family-Group Names in Zoology:
   (a) DASYPODIDAE Gray, 1821, type genus *Dasypus* Linnaeus, 1758 (Xenarthra);
   (b) DASYPODAIDAE Börner, 1919, type genus *Dasypoda* Latreille, 1802 (spelling emended by the ruling in (1) above) (Hymenoptera).

(5) The name *Tatu* Blumenbach, 1779 is hereby placed on the Official Index of Rejected and Invalid Generic Names in Zoology (a junior objective synonym of *Dasypus* Linnaeus, 1758) (Xenarthra).

(6) The name DASYPODIDAE Börner, 1919 is hereby placed on the Official Index of Rejected and Invalid Family-Group Names in Zoology (spelling emended to DASYPODAIDAE by the ruling in (1) above) (Hymenoptera).

History of Case 3023

An application to remove the homonymy between the mammalian and hymenopteran family-group names DASYPODIDAE Gray, 1821 (based on the generic name *Dasypus* Linnaeus, 1758) and DASYPODIDAE Börner, 1919 (based on the generic name *Dasypoda* Latreille, 1802) was received from (the late) Prof Byron A. Alexander & Prof Charles D. Michener (*Snow Entomological Museum, University of Kansas, Lawrence, Kansas, U.S.A.*) and Dr Alfred L. Gardner (*U.S.*

Geological Survey Patuxent Wildlife Research Center, National Museum of Natural History, Washington, U.S.A.) on 5 August 1996. After correspondence the case was published in BZN **55**: 24–28 (March 1998). Notice of the case was sent to appropriate journals.

Decision of the Commission

On 1 December 1998 the members of the Commission were invited to vote on the proposals published in BZN **55**: 26–27. At the close of the voting period on 1 March 1999 the votes were as follows:

Affirmative votes — 22: Bouchet, Brothers, Cocks, Eschmeyer, Heppell, Kabata, Kerzhner, Kraus, Lehtinen, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Schuster, Song, Štys

Negative votes — none.

No votes were received from Bock, Cogger and Dupuis.

Ride was on leave of absence.

Original references

The following are the original references to the names placed on Official Lists and Official Indexes by the ruling given in the present Opinion:

Dasypoda Latreille, 1802, *Histoire naturelle des fourmis* ..., p. 424.

DASYPODAIDAE Börner, 1919, *Biologisches Zentralblatt*, **39**(4): 180 (incorrectly spelled as DASYPODIDAE).

DASYPODIDAE Börner, 1919, *Biologisches Zentralblatt*, **39**(4): 180 (an incorrect original spelling of DASYPODAIDAE).

DASYPODIDAE Gray, 1821, *London Medical Repository, Monthly Journal and Review*, **15**(1): 305.

Dasypus Linnaeus, 1758, *Systema Naturae*, Ed. 10, vol. 1, p. 50.

hirtipes, *Andrena*, Fabricius, 1793, *Entomologica systematica emendata et aucta* ..., vol. 2, p. 312.

novemcinctus, *Dasypus*, Linnaeus, 1758, *Systema Naturae*, Ed. 10, vol. 1, p. 51.

Tatu Blumenbach, 1779, *Handbuch der Naturgeschichte*, p. 74.

The following is the reference for the designation of *Andrena hirtipes* Fabricius, 1793 as the type species of the nominal genus *Dasypoda* Latreille, 1802:

Blanchard, E. 1840. Hyménoptères. *In* Castelnau, F.L.N. de Laporte, *Histoire naturelle des insectes*, vol. 3, p. 414.

OPINION 1927

Lactura Walker, 1854 (Insecta, Lepidoptera): conserved, and the specific name of *Eustixis pupula* Hübner, [1831] (currently *Lactura pupula*): conserved

Keywords. Nomenclature; taxonomy; Lepidoptera; Microlepidoptera; ZYGAENOIDEA; LACTURIDAE; YPONOMEUTIDAE; PYRALIDAE; *Lactura*; *Lactura pupula*; *Eustixia*; *Eustixia pupula*; *Eustixis*; *Mieza*.

Ruling

(1) Under the plenary powers the following names are hereby suppressed for the purposes of the Principle of Priority but not for those of the Principle of Homonymy:
   (a) *Eustixis* Hübner, [1831];
   (b) *Mieza* Walker, 1854.

(2) The following names are hereby placed on the Official List of Generic Names in Zoology:
   (a) *Eustixia* Hübner, 1823 (gender: feminine), type species by subsequent designation by Kirby (1892) *Eustixia pupula* Hübner, 1823;
   (b) *Lactura* Walker, 1854 (gender: feminine), type species by monotypy *Lactura dives* Walker, 1854.

(3) The following names are hereby placed on the Official List of Specific Names in Zoology:
   (a) *pupula* Hübner, 1823, as published in the binomen *Eustixia pupula* (specific name of the type species of *Eustixia* Hübner, 1823);
   (b) *pupula* Hübner, [1831], as published in the binomen *Eustixis pupula*;
   (c) *dives* Walker, 1854, as published in the binomen *Lactura dives* (specific name of the type species of *Lactura* Walker, 1854).

(4) The following names are hereby placed on the Official Index of Rejected and Invalid Generic Names in Zoology:
   (a) *Eustixis* Hübner, [1831], as suppressed in (1)(a) above;
   (b) *Mieza* Walker, 1854, as suppressed in (1)(b) above.

History of Case 3001

An application for the conservation of the name *Lactura* Walker, 1854, and of the specific name of *Eustixis pupula* Hübner, [1831], was received from Dr J.B. Heppner (*Florida State Collection of Arthropods, Division of Plant Industry, Florida Department of Agriculture & Consumer Services, Gainesville, Florida, U.S.A.*) on 2 November 1995. After correspondence the case was published in BZN **54**: 159–161 (September 1997). Notice of the case was sent to appropriate journals.

Decision of the Commission

On 1 September 1998 the members of the Commission were invited to vote on the proposals published in BZN **54**: 160–161. At the close of the voting period on 1 December 1998 the votes were as follows:

Affirmative votes — 20: Bock, Bouchet, Brothers, Cocks, Cogger, Dupuis, Eschmeyer, Kabata, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Schuster, Štys

Negative votes — none.

No votes were received from Lehtinen, Kerzhner, Kraus and Song.

Heppell and Ride were on leave of absence.

Original references

The following are the original references to the names placed on Official Lists and an Official Index by the ruling given in the present Opinion:

dives, *Lactura*, Walker, 1854, *List of the specimens of lepidopterous insects in the collection of the British Museum*, part 2, p. 485.

Eustixia Hübner, 1823, *Zuträge zur Sammlung exotischer Schmetterlinge*, vol. 1, p. 24.

Eustixis Hübner, [1831], *Zuträge zur Sammlung exotischer Schmetterlinge*, vol. 3, p. 24.

Lactura Walker, 1854, *List of the specimens of lepidopterous insects in the collection of the British Museum*, part 2, p. 485.

Mieza Walker, 1854, *List of the specimens of lepidopterous insects in the collection of the British Museum*, part 2, p. 527.

pupula, *Eustixia*, Hübner, 1823, *Zuträge zur Sammlung exotischer Schmetterlinge*, vol. 1, p. 24.

pupula, *Eustixis*, Hübner, [1831], *Zuträge zur Sammlung exotischer Schmetterlinge*, vol. 3, p. 24.

The following is the reference for the designation of *Eustixia pupula* Hübner, 1823 as the type species of the nominal genus *Eustixia* Hübner, 1823:

Kirby, W.F. 1892. *A synoptic catalogue of Lepidoptera Heterocera (Moths)*, vol. 1 (Sphinges and Bombyces), p. 339.

OPINION 1928

Waagenoconcha Chao, 1927 and *Gruntoconcha* Angiolini, 1995 (Brachiopoda): conserved

Keywords. Nomenclature; taxonomy; Brachiopoda; *Gruntoconcha*; *Septoproductus*; *Waagenoconcha*; Permian.

Ruling

(1) Under the plenary powers the name *Septoproductus* Frech, 1911 is hereby suppressed for the purposes of the Principle of Priority but not for those of the Principle of Homonymy.

(2) The following names are hereby placed on the Official List of Generic Names in Zoology:
   (a) *Gruntoconcha* Angiolini, 1995 (gender: feminine), type species by original designation *Waagenoconcha* (*Gruntoconcha*) *macrotuberculata* Angiolini, 1995;
   (b) *Waagenoconcha* Chao, 1927 (gender: feminine), type species by original designation *Productus humboldti* d'Orbigny, 1842.

(3) The following names are hereby placed on the Official List of Specific Names in Zoology:
   (a) *macrotuberculata* Angiolini, 1995, as published in the binomen *Waagenoconcha* (*Gruntoconcha*) *macrotuberculata* (specific name of the type species of *Gruntoconcha* Angiolini, 1995);
   (b) *humboldti* d'Orbigny, 1842, as published in the binomen *Productus humboldti* (specific name of the type species of *Waagenoconcha* Chao, 1927).

(4) The name *Septoproductus* Frech, 1911 is hereby placed on the Official Index of Rejected and Invalid Generic Names in Zoology, as suppressed in (1) above.

History of Case 3034

An application for the conservation of the names *Waagenoconcha* Chao, 1927 and *Gruntoconcha* Angiolini, 1995 was received from Dr C.H.C. Brunton (*The Natural History Museum, London, U.K.*) on 17 October 1996. After correspondence the case was published in BZN **54**: 242–244 (December 1997). Notice of the case was sent to appropriate journals.

Decision of the Commission

On 1 September 1998 the members of the Commission were invited to vote on the proposals published in BZN **54**: 243. At the close of the voting period on 1 December 1998 the votes were as follows:

Affirmative votes – 16: Bock, Brothers, Cocks, Cogger, Eschmeyer, Kabata, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Savage, Štys

Negative votes – 4: Bouchet, Dupuis, Patterson and Schuster.

No votes were received from Lehtinen, Kerzhner, Kraus and Song.

Heppell and Ride were on leave of absence.

Bouchet commented: 'The group of fossils concerned in the application is being studied by a very small number of taxonomists. One of the names involved (*Gruntoconcha*) was established as recently as 1995 and it is difficult to see what might justify the proposal to 'retain the current understanding and use' of that name (para. 6). I see no reason why the provisions of the Code should be set aside'. Patterson commented: 'No evidence is presented that application of the Code would create significant disruption. I do not see that any good reason has been offered to justify the case'.

Original references

The following are the original references to the names placed on Official Lists and an Official Index by the ruling given in the present Opinion:

Gruntoconcha Angiolini, 1995, *Rivista Italiana di Paleontologia e Stratigrafia*, **101**: 206.

humboldti, *Productus*, d'Orbigny, 1842, *Voyage dans l'Amérique méridionale* ..., vol. 3, part 4 (Paléontologie), p. 54.

macrotuberculata, *Waagenoconcha* (*Gruntoconcha*), Angiolini, 1995, *Rivista Italiana di Paleontologia e Stratigrafia*, **101**: 206.

Septoproductus Frech, 1911, *in* Richthofen, F. von, *China, Ergebnisse eigener Reisen und darauf gegründeter Studien*, vol. 5, p. 132.

Waagenoconcha Chao, 1927, *China Geological Survey, Palaeontologia Sinica*, (B)**5**(2): 85.

OPINION 1929

Cnemidophorus neomexicanus Lowe & Zweifel, 1952 (Reptilia, Squamata): specific name conserved

Keywords. Nomenclature; taxonomy; Reptilia; Squamata; whiptail lizards; TEIIDAE; *Cnemidophorus neomexicanus*; southwestern United States.

Ruling

(1) Under the plenary powers the specific name *perplexus* Baird & Girard, 1852, as published in the binomen *Cnemidophorus perplexus*, is hereby suppressed for the purposes of the Principle of Priority but not for those of the Principle of Homonymy.

(2) The name *neomexicanus* Lowe & Zweifel, 1952, as published in the binomen *Cnemidophorus neomexicanus*, is hereby placed on the Official List of Specific Names in Zoology.

(3) The name *perplexus* Baird & Girard, 1852, as published in the binomen *Cnemidophorus perplexus* and as suppressed in (1) above, is hereby placed on the Official Index of Rejected and Invalid Specific Names in Zoology.

History of Case 3049

An application for the conservation of the specific name of *Cnemidophorus neomexicanus* Lowe & Zweifel, 1952 was received from Prof Hobart M. Smith (*University of Colorado, Boulder, Colorado 80309–0334, U.S.A.*) and 10 others on 30 May 1997. After correspondence the case was published in BZN **54**: 167–171 (September 1997). Notice of the case was sent to appropriate journals.

Comments in support from Dr Charles J. Cole (*American Museum of Natural History, New York, N.Y., U.S.A.*), Dr Philip A. Medica (*U.S. Geological Survey, Las Vegas, Nevada, U.S.A.*), Dr Harold A. Dundee (*Tulane University of Natural History, Louisiana, U.S.A.*), Dr Robert G. Webb (*University of Texas at El Paso, El Paso, Texas, U.S.A.*), Dr Wilmer W. Tanner (*Monte L. Bean Life Science Museum, Brigham Young University, Provo, Utah, U.S.A.*), Prof David B. Wake (*Museum of Vertebrate Zoology, University of California, Berkeley, California, U.S.A.*) and Prof Beth E. Leuck (*Centenary College of Louisiana, Shreveport, Louisiana, U.S.A.*) were published in BZN **55**: 39–43 (March 1998).

A note of the support received from Prof Robert C. Stebbins (*Museum of Vertebrate Zoology, University of California, Berkeley, California, U.S.A.*), Prof James L. Christiansen (*Drake University, Des Moines, Iowa, U.S.A.*), Prof Roger Conant (*The University of New Mexico, Albuquerque, New Mexico, U.S.A.*) and Dr Joseph T. Collins (*The Center for North American Amphibians and Reptiles, Lawrence, Kansas, U.S.A.*) was also published in BZN **55**: 43.

It was noted on the voting paper that, although the specific name of *Cnemidophorus neomexicanus* relates to a taxon which some authors now consider originated through hybridisation (para. 5 of the application and the comment from Dr C.J. Cole on BZN **55**: 40), it is nevertheless available (Article 17 of the Code).

Decision of the Commission

On 1 September 1998 the members of the Commission were invited to vote on the proposals published in BZN **54**: 169. At the close of the voting period on 1 December 1998 the votes were as follows:

Affirmative votes — 20: Bock, Bouchet, Brothers, Cocks, Cogger, Dupuis, Eschmeyer, Kabata, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Schuster, Štys.

Negative votes — none.

No votes were received from Lehtinen, Kerzhner, Kraus and Song.

Heppell and Ride were on leave of absence.

Original references

The following are the original references to the names placed on an Official List and an Official Index by the ruling given in the present Opinion:

neomexicanus, *Cnemidophorus*, Lowe & Zweifel, 1952, *Bulletin of the Chicago Academy of Sciences*, **9**(13): 230.

perplexus, *Cnemidophorus*, Baird & Girard, 1852, *Proceedings of the Academy of Natural Sciences of Philadelphia*, **6**(4): 128.

INFORMATION AND INSTRUCTIONS FOR AUTHORS

The following notes are primarily for those preparing applications; other authors should comply with the relevant sections. Applications should be prepared in the format of recent parts of the Bulletin; manuscripts not prepared in accordance with these guidelines may be returned.

General. Applications are requests to the Commission to set aside or modify the Code's provisions as they relate to a particular name or group of names when this appears to be in the interest of stability of nomenclature. Authors submitting cases should regard themselves as acting on behalf of the zoological community and the Commission will treat applications on this basis. Applicants are advised to discuss their cases with other workers in the same field before submitting applications, so that they are aware of any wider implications and the likely reactions of other zoologists.

Text. Typed in double spacing, this should consist of numbered paragraphs setting out the details of the case and leading to a final paragraph of formal proposals. Text references should give dates and page numbers in parentheses, e.g. 'Daudin (1800, p. 39) described . . .'. The Abstract will be prepared by the Secretariat.

References. These should be given for all authors cited. Where possible, ten or more relatively recent references should be given illustrating the usage of names which are to be conserved or given precedence over older names. The title of periodicals should be in full and be underlined; numbers of volumes, parts, etc. should be in arabic figures, separated by a colon from page numbers. Book titles should be underlined and followed by the number of pages and plates, the publisher and place of publication.

Submission of Application. Two copies should be sent to: The Executive Secretary, The International Commission on Zoological Nomenclature, c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. It would help to reduce the time that it takes to process the large number of applications received if the typescript could be accompanied by a disk with copy in IBM PC compatible format, preferably in ASCII text. It would also be helpful if applications were accompanied by photocopies of relevant pages of the main references where this is possible.

The Commission's Secretariat is very willing to advise on all aspects of the formulation of an application.

OPINION 1924. *Helix draparnaudi* Beck, 1837 (currently *Oxychilus draparnaudi*; Mollusca, Gastropoda): specific name conserved 152
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Notices

(a) *Invitation to comment.* The Commission is authorised to vote on applications published in the *Bulletin of Zoological Nomenclature* six months after their publication but this period is normally extended to enable comments to be submitted. Any zoologist who wishes to comment on any of the applications is invited to send his contribution to the Executive Secretary of the Commission as quickly as possible.

(b) *Invitation to contribute general articles.* At present the *Bulletin* comprises mainly applications concerning names of particular animals or groups of animals, resulting comments and the Commission's eventual rulings (Opinions). Proposed amendments to the Code are also published for discussion.

Articles or notes of a more general nature are actively welcomed provided that they raise nomenclatural issues, although they may well deal with taxonomic matters for illustrative purposes. It should be the aim of such contributions to interest an audience wider than some small group of specialists.

(c) *Receipt of new applications.* The following new applications have been received since going to press for volume 56, part 2 (published on 30 June 1999). Under Article 80 of the Code, existing usage is to be maintained until the ruling of the Commission is published.

(1) *Drosophila rufifrons* Loew, 1873 and *D. lebanonensis* Wheeler, 1949 (currently *Scaptodrosophila rufifrons* and *S. lebanonensis*; Insecta, Diptera): proposed conservation of the specific names by the designation of a neotype for *D. rufifrons*. (Case 3128). G. Bächli.

(2) *Coelopisthia* Förster, 1856 (Insecta, Hymenoptera): proposed designation of *Pteromalus extentus* Walker, 1835 as the type species. (Case 3129). H. Baur & Z. Bouček.

(3) *Pelastoneurus* Loew, 1861 (Insecta, Diptera): proposed conservation. (Case 3130). S.E. Brooks, T.A. Wheeler & N.L. Evenhuis.

(4) *Hybognathus stramineus* Cope, 1865 (currently *Notropis stramineus*; Osteichthyes, Cypriniformes): proposed conservation of the specific name. (Case 3131). R.M. Bailey.

(d) *Rulings of the Commission.* Each Opinion published in the *Bulletin* constitutes an official ruling of the International Commission on Zoological Nomenclature, by virtue of the votes recorded, and comes into force on the day of publication of the *Bulletin*.

The International Code of Zoological Nomenclature

The new and extensively revised 4th Edition of the *International Code of Zoological Nomenclature* has now been published. It will come into effect on 1 January 2000 and will entirely supersede the current (1985) edition. Some notes about the forthcoming edition, which contains many new provisions, will be found on the Commission's Website (www.iczn.org).

The price of the 4th Edition is £40 or $65; the following discounts are offered:

Individual members of a scientific society ordering one copy for personal use are offered a discount of 25% (price £30 or $48); the name and address of the society should be given.

Individual members of the American or European Associations for Zoological Nomenclature ordering one copy for personal use are offered a discount of 40%.(price £24 or $39).

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Individual purchasers of the Code are offered a 50% discount on one copy of the following publications for personal use:

The Official Lists and Indexes of Names and Works in Zoology (1985) — reduced from £60 to £30 and from $110 to $55;

Towards Stability in the Names of Animals — a History of the International Commission on Zoological Nomenclature 1895–1995 (1995) — reduced from £30 to £15 and from $50 to $25;

The Bulletin of Zoological Nomenclature (the Commission's quarterly journal) — discount valid for up to 5 years; for 1999 the discounted price would be £51 or $90.

The Code is published in a bilingual volume (English and French). Official texts in a number of other languages are planned and their availability will be announced on the Commission's Website.

The linguistic appendices in the 3rd Edition have not been included in the new edition; copies of these may be obtained without charge from ITZN.

Call for nominations for new members of the International Commission on Zoological Nomenclature

At the last meeting of the Commission, in Budapest in 1996, it was decided that three vacancies would be filled in by-elections, but these were postponed during the preparation (now complete) of the fourth edition of the *International Code of Zoological Nomenclature*. Since that meeting two Commissioners (Dr Z. Kabata (Canada; Copepoda) and Dr I.W.B. Nye (U.K.; Lepidoptera)) have retired. At the next meeting, of which the date and venue have not yet been determined, five members will reach the end of their current terms of service: Dr L.R.M. Cocks (U.K.; Brachiopoda), Mr D. Heppell (U.K.; Mollusca), Dr P.T. Lehtinen (Finland; Arachnology), Prof J.M. Savage (U.S.A.; Herpetology) and Prof Dr R. Schuster (Austria; Acari). A substantial number of actual and prospective vacancies thus exists, and the Commission invites nominations, from any person or institution, of potential candidates for election.

The nationalities and specialist fields of the present members of the Commission may be found on the Commission's Website (www.iczn.org) or on the inside cover of each part of the *Bulletin of Zoological Nomenclature*.

Article 2b of the Commission's Constitution prescribes that

> 'The members of the Commission shall be eminent scientists, irrespective of nationality, with a distinguished record in any branch of zoology, who are known to have an interest in zoological nomenclature'.

It should be noted that 'zoology' here includes the applied biological sciences (medicine, agriculture, etc.) which use zoological names.

Nominations made since June 1995 will automatically be taken into account and need not be repeated. Additional nominations, giving the age, nationality and qualifications (by the criteria mentioned above) of each nominee should be sent as soon as possible, either by e-mail to iczn@nhm.ac.uk or by post to *The Executive Secretary, International Commission on Zoological Nomenclature, c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K.*

Case 3089

Leucocytozoon (Protista, Haemosporida): proposed adoption of Berestneff, 1904 as the author and of *Leukocytozoen danilewskyi* Ziemann, 1898 as the type species

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Institute of Ecology, Akademijos 2, Vilnius 2600, Lithuania

Abstract. The purpose of this application is to resolve the uncertainty on the authorship of the haemosporidian parasite genus *Leucocytozoon* and the name of its type species. Many species of *Leucocytozoon* cause diseases in wild and domestic birds including hens, ducks, geese, turkeys and domesticated ostriches. Infection of birds with *Leucocytozoon* provides some of the best databases used by ecologists and evolutionary biologists. However, confusion arises from disagreement on the authorship of the nominal genus *Leucocytozoon* and on the name of its type species. To resolve this, it is proposed that the author of *Leucocytozoon* be confirmed as Berestneff (1904), with type species by monotypy *Leukocytozoen danilewskyi* Ziemann, 1898.

Keywords. Nomenclature; taxonomy; Protista; Haemosporida; blood parasites; *Leucocytozoon*; *Leucocytozoon danilewskyi*.

---

1. Ziemann (1898) published a detailed description of parasites recorded in the blood of three specimens of the little owl *Athene noctua* from Crema, Italy. This description was accompanied by excellent colour illustrations (pl. 3, figs. 29–33), which leave no doubt what species he was working with. Ziemann was uncertain that he had been working with a new species, and (p. 128) named the species only in the subtitle 'Das sogenannte Leukocytozoen Danilewskyi?'. This name is the first specific name of leucocytozoids for which the genus *Leucocytozoon* was subsequently established. The name 'Leukocytozoen' in Ziemann (1898) indicates in German the plural of a leucocytoid; it is not unambiguously available as a generic name, but for the purposes of this application it is here taken as an available name.

2. Neave (1939, p. 929) records the authorship of *Leucocytozoon* as 'Danilewsky, 1889, Parasitol. Sang, 23'. However, Danilewsky (1889, p. 23) did not use the word 'Leucocytozoon', nor did he establish a nominal genus similar to that word. He wrote 'Mais la forme et la dimension du noyau de la capsule, l'absence de grains de mélanine, la dimension et l'aspect de la membrane capsulaire tout ceci parle en faveu du developpement de ces parasites intracellulaires dans les globules blancs du sang — ergo ce sont des Leucocytozoa (par analogie aux Hémicytozoa)'. Nor did Danilewsky use the word 'Leucocytozoon' in two related papers (Danilewsky, 1890, 1891). He used the terms Leucocytozoaires and Leucocytozoaire, as well as Leucocytozoa, in the plural to distinguish stages of parasites developing in leucocytes rather than in erythrocytes.

3. Berestneff (1904, p. 376) was the first person to make available the nominal genus *Leucocytozoon* without any attribution of authorship; *Leukocytozoen danilewskyi* Ziemann, 1898 is the type species by monotypy.

4. There has been long-standing uncertainty on the authorship of *Leucocytozoon* and the name of its type species. Authorship is sometimes attributed to Danilewsky (e.g. by Sambon, 1908, p. 245; Wenyon, 1926, p. 903; Neave, 1939, p. 929). Bennett, Garnham & Fallis (1965, p. 927) attributed *Leucocytozoon* to Ziemann (1898) with *L. danilewskyi* Ziemann, 1898 as type species. Bennett, Laird, Khan & Herman (1975, p. 24) reviewed the status of *Leucocytozoon* and attempted to 'clarify the confusion that has increasingly surrounded the genus *Leucocytozoon*'. They concluded that Berestneff (1904) 'failed to provide a formal designation or description of the genus *Leucocytozoon*' and that *L. danilewskyi* was a nomen nudum; they attributed authorship of *Leucocytozoon* to Sambon, 1908, with the type species *Leucocytozoon majoris* (Laveran, 1902). Bennett changed his mind and in 1982 (Bennett, Whiteway & Woodworth-Lynas) accepted *L. danilewskyi* as a valid name.

5. Garnham (1966) published the first illustrated review of the world fauna of haemosporidian parasites, and his monograph is frequently cited and is generally accepted as the most authoritative book on this subject. He analysed the literature and (p. 963) attributed authorship of *Leucocytozoon* to Berestneff (1904) with *Leucocytozoon danilewskyi* (Ziemann, 1898) as the type species. This attribution was followed by Hsu, Campbell & Levine (1973), by Fallis, Desser & Khan (1974) and more recently by Krylov (1994, 1996). In 1997 I published the first illustrated review of the world fauna of bird haemosporidian parasites since Garnham's (1966) monograph. With the concurrence of Dr I.M. Kerzhner (St Petersburg) with whom I discussed the problem, I followed Garnham's attribution of *Leucocytozoon* to Berestneff (1904) with *Leucocytozoon danilewskyi* (Ziemann, 1898) as the type species.

6. A number of recent authors have avoided the problem by omitting authorship of *Leucocytozoon*. However, I propose that the Commission should resolve the issue once and for all by ruling that the author of *Leucocytozoon* is Berestneff (1904) and that the type species is *Leukocytozoen danilewskyi* (Ziemann, 1898).

7. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to suppress the name *Leukocytozoen* Ziemann, 1898, for the purposes of the Principle of Priority but not for those of the Principle of Homonymy;

(2) to place on the Official List of Generic Names in Zoology the name *Leucocytozoon* Berestneff, 1904, type species by monotypy *Leukocytozoen danilewskyi* Ziemann, 1898;

(3) to place on the Official List of Specific Names in Zoology the name *danilewskyi* Ziemann, 1898, as published in the binomen *Leukocytozoen danilewskyi* (specific name of the type species of *Leucocytozoon* Berestneff, 1904);

(4) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the name *Leukocytozoen* Ziemann, 1898, as suppressed in (1) above.

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Case 3116

Gnomulus Thorell, 1890 (Arachnida, Opiliones): proposed designation of *G. sumatranus* Thorell, 1891 as the type species

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Abstract. The purpose of this application is to conserve the usage of the generic name *Gnomulus* Thorell, 1890 for an opilionid (family ONCOPODIDAE) by the designation of *G. sumatranus* Thorell, 1891 as the type species. This designation was the author's clear intention and is in accord with the subsequent understanding and usage of the genus. However, *Gnomulus* was described with *G. rostratus* Thorell, 1890 as the type species by monotypy. *Gnomulus sumatranus* and *G. rostratus* are morphologically distinct and it is possible that they will require generic separation in the future. Members of the genus *Gnomulus* are known from the Himalayan Region and from southeast Asia.

Keywords. Nomenclature; taxonomy; Arachnida; Opiliones; ONCOPODIDAE; *Gnomulus*; *Gnomulus sumatranus*; *Gnomulus rostratus*.

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1. In 1890 Thorell (p. 378) described the genus *Gnomulus* and designated '*Gnomulus sumatranus*' as the type species. However, he did not then describe this species and the name *sumatranus* was not made available until a year later. Thorell (1890) referred to '*G. sumatranus*' as 'Typus: *G. sumatranus*, Thorell' and in a footnote recorded 'species in opere nondum edito (Opilioni nuovi ...) a me descripta' (species to be described by me in a not yet edited paper). Thorell described and illustrated *G. sumatranus* from Sumatra in 1891 (pp. 759–763, figs. 37–40).

2. Thorell (1890, p. 378) described another species, *Gnomulus rostratus*, at the same time as the genus *Gnomulus* and, as the single included species with an available name, this is the type species by monotypy.

3. Clearly Thorell's intention was to fix *Gnomulus sumatranus* as the type species of *Gnomulus* and this formally invalid designation has been accepted and never questioned by subsequent authors. There are considerable advantages in maintaining *G. sumatranus* as the type of the genus.

4. *Gnomulus sumatranus* is a well known species. The external morphology of the male from the type series was illustrated in the original description (Thorell, 1891, pp. 759–763, pl. 9, figs. 37–40) and later also by Roewer (1923, pp. 61–62, figs. 64a–c); another male and its genitalia were illustrated by Loman (1903, figs. O, V–f, pl. 11,

figs. 19, 21). On the other hand, *Gnomulus rostratus* was described in a lengthy Latin text without illustrations (Thorell, 1890, pp. 378–381) and has remained a virtually unknown species. Although fairly conspicuous and fairly common at the type locality (Penang Island, Malaysia) and nearby localities on the mainland, there has never been a subsequent record of this species in the literature. Further specimens of *G. rostratus*, which were found later, were misidentified in Roewer's collection. *Pelitnus insularis* Roewer, 1927, a species now included in *Gnomulus* and most closely related to *G. rostratus*, was not recognized as such. The penis morphology of *G. rostratus* has not hitherto been studied and published.

5. *Gnomulus sumatranus* Thorell, 1891 was based on a type series of material of both sexes (one male, three females and two juveniles), preserved in the Museo Civico di Storia Naturale, Genoa. *Gnomulus rostratus* Thorell, 1890 was based on a single female holotype, also preserved in the Genoa collections. We propose (Schwendinger & Martens, in press) to designate the male specimen as the lectotype of *G. sumatranus*. All relevant illustrations (apart from the figure of a leg tarsus of a juvenile) in the original description of the species refer to this specimen (Thorell, 1891, pl. 9, figs. 37 39). It is in perfect condition, with its genitalia intact, and provides the most informative and reliable characters for identification. Female genitalia are uninformative at the species level.

6. The nominal species *Gnomulus sumatranus* and *G. rostratus* are dissimilar in a number of characters. Features of the genitalia of *G. sumatranus* accord well with other species (except *G. rostratus* and *Pelitnus insularis*) described under *Gnomulus* and *Pelitnus* (now in synonymy with *Gnomulus*). However, *G. rostratus* and *G. insularis*, and a further three closely related species which we will describe from Thailand and Malaysia (Schwendinger & Martens, in preparation), are markedly different in external and genital morphology. These may need to be generically separated as more such species become known. The name *Pelitnus* Thorell, 1891 (p. 757, based on *P. armillatus* Thorell, 1891, which has a juvenile type specimen) is available for *G. sumatranus* and its allied species but we (Martens & Schwendinger, 1998, p. 526) have recently placed *Pelitnus* in the synonymy of *Gnomulus* and transferred all 17 known species to the latter genus. Transferring these, and the other species (except *G. rostratus* and *G. insularis*) currently in *Gnomulus*, back into *Pelitnus* and reinstating the latter name, would cause unnecessary confusion and instability. In our view it would be preferable not to change the long accepted understanding of *Gnomulus* but, instead, to establish a new genus for *G. rostratus* and related species if this is required in the future.

7. We propose that *Gnomulus sumatranus* Thorell, 1891 be maintained as the type species of *Gnomulus* Thorell, 1890 in accord with the understanding of the genus since its original publication in 1890. Usage of the generic name is demonstrated in the recent publications by Sørensen (1932, p. 210), Martens (1977, p. 298), Tsurusaki (1990, pp. 59–62), Schwendinger (1992, pp. 177, 197, 198) and Martens & Schwendinger (1998).

8. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to set aside all previous fixations of type species for the nominal genus *Gnomulus* Thorell, 1890 and to designate *Gnomulus sumatranus* Thorell, 1981 as the type species;

(2) to place on the Official List of Generic Names in Zoology the name *Gnomulus* Thorell, 1890 (gender: masculine), type species by designation under the plenary powers in (1) above *Gnomulus sumatranus* Thorell, 1891;

(3) to place on the Official List of Specific Names in Zoology the name *sumatranus* Thorell, 1891, as published in the binomen *Gnomulus sumatranus* (specific name of the type species of *Gnomulus* Thorell, 1890).

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Case 3078

Diastylis Say, 1818 (Crustacea, Cumacea): proposed designation of *Cuma rathkii* Krøyer, 1841 as the type species

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Abstract. The purpose of this application is to designate *Cuma rathkii* Krøyer, 1841 as the type species of the genus *Diastylis* Say, 1818. At present the nominal species *Diastylis arenarius* Say, 1818 is the type by monotypy but the original material of this species has been lost and it is not identifiable from its description. The name *Diastylis* is used for a large genus and is the basis of the family-group name DIASTYLIDAE Bate, 1856. Members of the family, which includes more than 200 species, are found world-wide in temperate latitudes and at all depths below the intertidal zone.

Keywords. Nomenclature; taxonomy; Crustacea; Cumacea; DIASTYLIDAE; *Diastylis*; *Diastylis rathkii*.

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1. In 1818 Say (p. 313) established the new genus *Diastylis*, and described (p. 314) from the coast of Georgia and Florida the single included species *Diastylis arenarius*, which is therefore the type species by monotypy. The description of the species was detailed for the time but does not allow its distinction from many telson-bearing species of Cumacea. The species was represented by a single male individual.

2. All subsequent authors have considered the species *Diastylis arenarius* Say, 1818 to be of doubtful identity; see, for example, Calman (1912), Zimmer (1941) and Day (1980). Zimmer (1941) suggested that the holotype of *D. arenarius* may have been a specimen of *Oxyurostylis smithi* Calman, 1912. No other specimen has ever been placed in *D. arenarius*.

3. The true identity of Say's (1818) species *Diastylis arenarius* cannot be ascertained. The specimen is lost from the Academy of Natural Sciences in Philadelphia, it was not described in Stebbing's monograph of 1913, and it was never illustrated. Say himself (1818, p. 315) considered *D. arenarius* to be congeneric with *Cancer scorpioides* Montagu, 1804, a species now placed in *Bodotria* Goodsir, 1843 and the non-telson-bearing family BODOTRIIDAE. Currently, family definitions are based in large measure on the presence or absence of a telson, features of the setal armature of the telson, and the number of pleopods in the male. Say's (1818) description of *D. arenarius* noted the presence of a relatively large telson and two pairs of pleopods, characters sufficient to place it within the family DIASTYLIDAE Bate, 1856; however, no characters now considered to be of generic or specific value were given. Say (1818, p. 316) noted that a third nominal species, *Gammarus esca* Fabricius, 1779, was also probably congeneric. The reference to '*Cancer esca* (Gmelin)' by Say was the last use of the name and it has since been treated as a nomen dubium (see Stebbing, 1913 and Băcescu, 1992, p. 425).

4. The name *Diastylis* is much in use and has appeared in publications on cumacean taxonomy (for example, Day, 1980), ecology (for example, Corey, 1976, 1981 and 1983), morphology (for example, Dennell, 1934), histology (for example, Dohle, 1976; Meyer-Rochow, 1989), oceanography (for example, Anger & Valentine, 1976) and biology (for example, Vader & Wolff, 1973), as well as general catalogues and guides (for example, Hayward & Ryland, 1990, pp. 369-370, fig. 9.4; 1996, p. 324, fig. 8.14). Bate (1856, p. 451) established the family DIASTYLIDAE, based on *Diastylis*, and this is also very much referred to in the literature. More than 200 species are currently placed in the family.

5. The unknown identity of the type species of *Diastylis* Say, 1818 threatens the stability of the widely accepted name. As noted above, Say's (1818) description of *D. arenarius* is incomplete and the generic characters of the telson region of *Diastylis* have never been adequately defined. In order to rectify this a new type species must be selected. I propose that *Cuma rathkii* Krøyer, 1841 (p. 513, pl. 5, figs. 19–22, pl. 6, figs. 17–30) be designated as the type species. This species was referred to *Diastylis* by Bate (1856, p. 451), and appears to have been the first species after *D. arenarius* to have been assigned to the genus. *Diastylis rathkii* is probably the best known of all Cumacea. It has a circumpolar range in Arctic seas. There is syntype material in the Zoologisk Museum in Copenhagen (catalog no. CRU-7936). The type locality was cited by Băcescu (1992, p. 307) as ' 'ved Hornbaek', la partie la plus sud du Kattegat, 56°05′N, 12°28′E, Danemark et 'tilhører ... den grønlandske Fauna' '.

6. In a study of South African Cumacea, which included members of the family DIASTYLIDAE, Day (1980, p. 221) noted the shortcomings in the original description of *Diastylis arenarius*, and that the type material has since been lost. She recorded that a diagnosis for *Diastylis* based on *D. rathkii* 'would be adequate for the genus'. She also added that 'finality must await the decision of the International Commission on Zoological Nomenclature, to whom the matter has been referred'. However, an application to the Commission has never been made.

7. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to set aside all previous fixations of type species for the nominal genus *Diastylis* Say, 1818 and to designate *Cuma rathkii* Krøyer, 1841 as the type species;

(2) to place on the Official List of Generic Names in Zoology the name *Diastylis* Say, 1818 (gender: feminine), type species by designation in (1) above *Cuma rathkii* Krøyer, 1841;

(3) to place on the Official List of Specific Names in Zoology the name *rathkii* Krøyer, 1841, as published in the binomen *Cuma rathkii* (specific name of the type species of *Diastylis* Say, 1818).

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Case 3076

Tanaecia coelebs Corbet, 1941 (Insecta, Lepidoptera): proposed conservation of the specific name

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Abstract. The purpose of this application is to conserve the specific name of *Tanaecia coelebs* Corbet, 1941 for a butterfly from southeast Asia (family NYMPHALIDAE). This name has been consistently used for the species but it is now known that *T. heringi* Niepelt, 1935 is a senior synonym. The latter name has remained unused since its publication.

Keywords. Nomenclature; taxonomy; Lepidoptera; NYMPHALIDAE; southeast Asia; *Tanaecia coelebs*.

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1. In 1935 Niepelt (p. 13) described and illustrated a nymphalid butterfly, *Tanaecia heringi*, from Padang Bovenland, West Sumatra. The name was based on a male specimen which is now preserved in the Museum für Naturkunde der Humboldt-Universität, Berlin; it is labelled: (red labels) 'Holotype *Tanaecia heringi* Niepelt, 1935', '*Tanaecia heringi* Niep. ♂ Collection Niepelt/fort du Kock, Padang Bovenland, West Sumatra, leg. Sopp. Dr Schmidt'. Niepelt noted the species as being similar to *T. clathrata* (Snellen van Vollenhoven, 1862), described from southern Borneo, but with the upper sides of the wing much darker, the usual dark markings being scarcely recognisable, and the distal band on the hind wings greenish-blue. The ground colour of the underside of the wings was described as chocolate brown, with a violet blue coating to the distal part of the hind wings.

2. In 1941 Corbet (pp. 508–509, 512) described *Tanaecia coelebs* from the same locality. He examined five male specimens, from which he selected one, in the Natural History Museum, London, as the holotype. The specimen is preserved in the type cabinet no. NYM 4–12 and is labelled: (red labels) 'Holotype *Tanaecia coelebs* Corbet', 'Adams Bequest B.M. 1912–399. Ex Coll Van de Poll', '*Tanaecia* Genitalia'. Corbet did not mention Niepelt's publication, of which he was presumably unaware, but he also described the butterfly as distinctive among species of *Tanaecia* by having the upper wing surface a deeper, richer, purple-brown or black, and the broad, pale border of the hind wing as blue or purple. The under wings were chocolate-brown, with the hind wing broadly bordered with lilac.

3. I have examined the holotypes of both *Tanaecia heringi* and *T. coelebs* and have found that they represent the same species. It follows that under the Code the specific name *heringi* should be adopted for the combined taxon. However, the name *coelebs* has been in consistent use in all publications on the species for nearly 60 years, while *heringi* has never been used since its publication. Examples of well-known recent works in which the name *coelebs* has been used include Corbet & Pendlebury (1956,

p. 229), Fleming (1975, p. 49, pl. 46, fig. N96; 1983, p. 51, pl. 46, fig. N96), Eliot (1978; 1992, p. 183), D'Abrera (1985, p. 344, pl. 344) and Tsukada (1991, p. 333, pls. 38, 39).

4. Tsukada (1991) figured the female of the species and described four new subspecies (*Tanaecia coelebs regalis* from West Malaysia; *T. c. solium* from Natuna island; *T. c. regina* from South Sumatra; and *T. c. mulsa* from Belitung and Bangka islands). The nominotypical subspecies is found in North and West Sumatra. Two further subspecies, as yet unnamed, occur on Batu and Lingga/Singkep islands. I have examined type material of Tsukada's subspecies; I recognise the names as valid and consider that they are unlikely to be synonymised in the future.

5. In order to maintain stability and universality in the usage of the name for the species, I propose that the name *Tanaecia coelebs* Corbet, 1941 should be conserved.

6. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to suppress the specific name *heringi* Niepelt, 1935, as published in the binomen *Tanaecia heringi*, for the purposes of the Principle of Priority but not for those of the Principle of Homonymy;

(2) to place on the Official List of Specific Names in Zoology the name *coelebs* Corbet, 1941, as published in the binomen *Tanaecia coelebs*;

(3) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name *heringi* Niepelt, 1935, as published in the binomen *Tanaecia heringi* and as suppressed in (1) above.

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Case 3128

Drosophila rufifrons Loew, 1873 and *D. lebanonensis* Wheeler, 1949 (currently *Scaptodrosophila rufifrons* and *S. lebanonensis*; Insecta, Diptera): proposed conservation of the specific names by the designation of a neotype for *D. rufifrons*

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Abstract. The purpose of this application is to conserve the specific names of *Scaptodrosophila rufifrons* (Loew, 1873) and *S. lebanonensis* (Wheeler, 1949) for two European species of lesser fruit fly in the *S. rufifrons* species group (family DROSOPHILIDAE). The lectotype of *S. rufifrons* is now known to be a specimen of *S. lebanonensis*, rendering the name *rufifrons* a senior synonym of *lebanonensis*. It is proposed that the lectotype of *rufifrons* be set aside and a neotype designated in accord with accustomed usage.

Keywords. Nomenclature; taxonomy; Diptera; DROSOPHILIDAE; lesser fruit flies; *Scaptodrosophila rufifrons*; *Scaptodrosophila lebanonensis*; Europe.

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1. In 1873 Loew (p. 50) described the new species *Drosophila rufifrons* on male and female specimens from the central Balkans area. It is one of the more rare forest species, developing in oozing sap of trees (mainly oak) in central and southern Europe.

2. In 1949 Wheeler (p. 143) described the species *Drosophila lebanonensis* based on a holotype male numbered 1733.1 in the *Drosophila* Type and Reference Collection of the University of Texas, Austin, Texas. There is also a series of paratype males and females; all the specimens originated in Beirut, Lebanon. This is a Mediterranean-Submediterranean lesser fruit fly which develops in fermenting fruits, and is commonly found in fruit stores such as cellars. It is an important species in the study of evolutionary biology, morphogenetics and physiology, and has been kept as laboratory stock for more than five decades. The species is the most frequently quoted representative of the genus *Scaptodrosophila* Duda, 1923.

3. In 1982 I (Bächli, p. 295) designated a lectotype for *Scaptodrosophila rufifrons* (Loew, 1873). This was a specimen (misprinted as ♀ and corrected to ♂ in Bächli, 1984, p. 254) in the Zoological Museum, Berlin, labelled: (1) 'Kasan 20.6.71'; (2) 'Coll. H. Loew'; (3) [Loew's handwriting] '?*Drosoph.* n.sp.'; (4) '*D. rufifrons* Lw. det. Dr O. Duda'; (5) ♂; (6) '*D. rufifrons* Lw. lectotypus, G. Bächli det. 1982'; (7) 'Zool. Mus. Berlin'. A recent study of the European species of the *Scaptodrosophila rufifrons*-group (see Papp, Rácz & Bächli, in press) has shown that the lectotype of *S. rufifrons*, which is the single extant original specimen, is a specimen of the species known as *Scaptodrosophila lebanonensis* (Wheeler, 1949).

4. The specific names of *Scaptodrosophila rufifrons* (Loew, 1873) and *S. lebanonensis* (Wheeler, 1949) are currently used for two distinct species which are ecologically separated and have never been confused. The species *S. rufifrons* was identified widely in Europe by several authors in the 1920's, and the name has been consistently in use from at least Duda's (1934–1935) revision of the family DROSOPHILIDAE. The name *S. rufifrons* has been mentioned in at least 155 publications, the vast majority of which date from the last 50 years, and *S. lebanonensis* has been used in at least 107 publications; lists of these publications are held by the Commission Secretariat. The name *S. rufifrons* has been used in the following recent representative works: Pelandakis & Solignac (1993), Gross & Christian (1994), Merçot et al. (1994), Franzen (1996), Gillies & Hardy (1997) and Máca (1997). The name *S. lebanonensis* has appeared in Albalat & Gonzalez-Duarte (1993), Kwiatowski, Skarecky, Bailey & Ayala (1994), Tamura, Toba, Park & Aotsuka (1996), Herrewege & David (1997) and Remsen & DeSalle (1998).

5. Recognition that the lectotype of *Scaptodrosophila rufifrons* (Loew, 1873) designated by me (Bächli, 1982) is a specimen of *S. lebanonensis* (Wheeler, 1949) as always understood means that the name *S. rufifrons* becomes formally a senior subjective synonym of *S. lebanonensis*. The name *S. rufifrons* would become valid for the species currently known as *S. lebanonensis*, and a new name would be required for *S. rufifrons* as currently understood. *Drosophila nitens* Buzzati-Traverso, 1943 (p. 38) is the only available name for the species currently known as *S. rufifrons* but it has never been used for the taxon. Moreover, the syntypes of this nominal species, formerly in the Istituto di Zoologia e Genetica della R. Università di Pavia, Italy, are missing and presumed lost.

6. The loss of the name *Scaptodrosophila lebanonensis*, the transfer of the frequently used name *S. rufifrons* from the one species to the other, and the introduction of the unused name *S. nitens* in place of *S. rufifrons* as currently understood, would all inevitably cause disruption and confusion, affecting both the two species involved and species of *Scaptodrosophila* in general. I propose that the lectotype of *S. rufifrons* be set aside and that a neotype be designated in accord with the accustomed usage of the name. This action would remove *rufifrons* from the synonymy of *lebanonensis*, so allowing the usages of both names to continue. The proposed neotype is a male specimen in the Hungarian Natural History Museum, Budapest, labelled as 'Neotype' on a red-margined card, and with label data: (1) K[iskunsági] N. P.: Kunfehértó, *Morus alba* kicsorgó nedvén [oozing sap]; (2) 1982. VI. 15–23., leg. Papp L.

7. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to set aside all previous type fixations for the nominal species *Drosophila rufifrons* Loew, 1873 and to designate the male specimen in the Hungarian Natural History Museum, Budapest, referred to in para. 6 above, as the neotype;

(2) to place on the Official List of Specific Names in Zoology the following names:
   (a) *rufifrons* Loew 1873, as published in the binomen *Drosophila rufifrons* and as defined by the neotype designated in (1) above;
   (b) *lebanonensis* Wheeler, 1949, as published in the binomen *Drosophila lebanonensis*.

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Case 3073

Vespertilio pipistrellus Schreber, 1774 and *V. pygmaeus* Leach, 1825 (currently *Pipistrellus pipistrellus* and *P. pygmaeus*; Mammalia, Chiroptera): proposed designation of neotypes

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Abstract. The purpose of this application is to provide neotypes for two broadly sympatric cryptic species of pipistrelle bats; until recently only a single taxon was recognised and known as *Pipistrellus pipistrellus* (Schreber, 1774). The species were first distinguished by their ultrasonic echolocation calls but also differ in other ways. It is proposed that the species with the lower-pitched call should be denoted by the name *P. pipistrellus*, and that the name *P. pygmaeus* (Leach, 1825), which has been regarded as a synonym of *P. pipistrellus*, should be used for the smaller species which calls at a higher frequency.

Keywords. Nomenclature; taxonomy; Mammalia; Chiroptera; bats; VESPERTILIONIDAE; *Pipistrellus*; *Pipistrellus pipistrellus*; *Pipistrellus pygmaeus*.

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1. Schreber (1774, p. 167, pl. 54) described and illustrated a dark brown bat and gave it the name *Vespertilio pipistrellus*; he cited three earlier works as references for the species, in which it was given the vernacular name 'la pipistrelle'. These were Daubenton (1759, p. 381, pl. 1, fig. 3), Buffon (1760, p. 129, pl. 19, fig. 1) and Pennant (1771, p. 370). Geoffroy Saint-Hilaire (1803, pp. 53–54), also citing Daubenton (1759) and Buffon (1760), noted that at that time there were seven pipistrelle specimens (nos. 113–119) in the Paris Museum, and an additional specimen (no. 120) was a female with young attached to the nipples. Schreber's specific name *pipistrellus* has been adopted for what is probably the commonest and most widely distributed bat in Europe (see Stebbings & Griffith, 1986), and the species is the type species by monotypy of the genus *Pipistrellus* Kaup, 1829 (pp. 98, 188).

2. Leach (1825, p. 559, pl. 22) gave the name *Vespertilio pygmaeus* to 'a new species' from south-west England. It was noted that this bat 'most nearly resembles the *V. pipistrellus*. But it differs in various particulars. It is ... considerably smaller ... [it is] probable that the smaller Vespertiliones, even in Europe and the neighbouring territories, are not as yet examined with sufficient acccuracy, and that new species, allied to each other in external appearance, remain to be discovered'. A single female specimen formed the basis of the description and is therefore the holotype. In

October 1824 Leach sent the specimen to one of the 'Conductors of our Journal' (i.e. the *Zoological Journal*). The four 'conductors' included Dr Thomas Bell, who in 1837 (p. 31) recorded that the 'specimen is now in the British Museum. It is the only one in existence in any collection'. The specimen, currently preserved in the collections of the Mammal Section, The Natural History Museum, London, has never been registered but is listed (no. 61k) in J.E. Gray's 'Manuscript Catalogue of Mammalia, part 1 (Primates and Chiroptera)' as '*Vespertilio pygmaeus* Leach, *Jl. Zool.* Dartmoor, Devon. Prepared by W.E. Leach'; in Gray (1843, p. 29, specimen 61k) as 'Very young, bones of skull not hardened. *Zool. Jour.* Dartmoor, Devonshire. Presented by W.E. Leach'; and in Dobson (1878, p. 225, specimen d) as 'Immature. Type of *Vespertilio pygmaeus* Leach. Dartmoor. Presented by W.E. Leach'. The head of the specimen is now separated from the body. At least by 1874 the name *V. pygmaeus* was rejected as a synonym on the assumption (see Bell, 1874, p. 42) that 'there is now no longer any doubt that it [Leach's specimen] is a young Pipistrelle' [i.e. *V. pipistrellus*]. Examination of the holotype by G. Jones, A. M. Hutson and P. Jenkins has shown that it is indeed an infant female and that the ascertainable measurements conform with those given by Leach (1825, p. 560).

3. *Pipistrellus pipistrellus* (Schreber, 1774) has traditionally been considered to refer to a single biological species and Leach's name *pygmaeus* has long been treated as a synonym of *pipistrellus*. However, Jones & Parijs (1993) showed the existence of two distinct 'phonic types', distinguished by their ultrasonic echolocation calls. The calls emitted by pipistrelles searching for prey consist of pulses lasting 5–10 msec; each pulse starts at a high frequency which very rapidly diminishes to a relatively long-lasting 'tail' of almost constant frequency. The calls emitted by bats of the two phonic types were found to have 'tails' with non-overlapping average frequencies of about 46 kHz and 55 kHz respectively. In some geographical areas only one type was found, while in others both occurred together; in the latter cases, however, all the bats belonging to a particular colony were of a single phonic type. Jones & Parijs (1993) suggested that the two phonic types of *P. pipistrellus* might represent cryptic species. A number of cryptic species are known to exist in other bat genera (see Jones, 1997, p. 336).

4. Subsequently it has been shown that the two types differ not only in acoustic signals but also in overall geographical range (Jones, 1997), habitat (the 55 kHz type preferring riparian sites: Vaughan, Jones & Harris, 1997), diet (Barlow, 1997), 'social' calls (Barlow & Jones, 1997a, 1997b) and mating groups (Park, Altringham & Jones, 1996). The skull morphology shows differences (Barlow, Jones & Barratt, 1997), but these cannot be used to separate the species with confidence. There are large genetic differences between them (Barratt et al., 1995, 1997): there is a sequence divergence of 11% in a 630 bp region of the cytochrome *b* gene of mitochondrial DNA (Barratt et al., 1997). The two types are very similar but not identical in general morphology, and the 55 kHz type is slightly but significantly smaller. There are also subtle but usually recognizable differences in appearance (Jones, 1997, p. 327): the 45 kHz type is darker brown, and it usually has a black face 'mask' while the eyes of the 55 kHz bats are often surrounded by bare skin.

5. The evidence in the papers cited above demonstrates beyond doubt that in Europe there are two reproductively isolated, although often sympatric, cryptic

species of pipistrelle bats. The name *Pipistrellus pipistrellus* has covered both, and it is now necessary to be able to apply this name to one of the taxa and another name to the second. The bat illustrated in the original Schreber (1774) plate of *P. pipistrellus* (see para. 1 above) resembles the 45 kHz phonic type (dark brown, shaggy fur, dark face band), and so far only this type has been recorded from France. It would therefore be sensible, if perhaps somewhat arbitrary, to retain the name *P. pipistrellus* for the 45 kHz phonic type. The name *P. pygmaeus* (Leach, 1825: see para. 2 above), which has been considered a synonym of *P. pipistrellus* for more than a century, can be applied to the smaller 55 kHz phonic type. The English vernacular name Common Pipistrelle was used by Corbet & Hill (1991) for *P. pipistrellus*, and the vernacular name Soprano Pipistrelle is proposed for *P. pygmaeus* because the existence of the cryptic species was first suggested by its high-pitched calls.

6. Some of the supposed synonyms of *P. pipistrellus* listed by Ellerman & Morrison-Scott (1951, p. 164) may have been based on *P. pygmaeus* in the sense of the present paper. It is likely that bats referred to as *P. pipistrellus mediterraneus* by Cabrera Latorre (1904) are *P. pygmaeus*: echolocation work (for example, Kalko, 1995) and molecular studies (Barratt et al., 1997) suggest synonymy with *P. pygmaeus*. We propose the use of the latter name because *mediterraneus* would be misleading and Leach's name is much older.

7. No original material of *Vespertilio pipistrellus* Schreber, 1774 is known to exist (see para. 1 above), and even if it does assignment of such old specimens to one or other of the two cryptic species would be difficult and uncertain. Similarly, the holotype of *V. pygmaeus* Leach, 1825 (para. 2 above) is not suitable for demonstrating the differences between the two cryptic species. There is a clear case (in accordance with Recommendation 75E of the 1985 edition of the Code) for neotypes of both nominal species, and we propose that the Commission should set aside any existing type material and designate neotypes for *Vespertilio pipistrellus* and *V. pygmaeus*; both the specimens mentioned below have been deposited in the Natural History Museum, London, and are accompanied by molecular data confirming their assignment to the two species.

8. The proposed neotype for *Vespertilio pipistrellus* Schreber, 1774 is registered as specimen no. BMNH 1997.81. It is an alcohol-preserved adult male, forearm length 30.9 mm, collected by R.C. Sabin on 2 October 1996 in Beauvais Cathedral, Normandy, France (49° 26′N, 02° 05′E). It is accompanied by a second (dried) specimen registered as BMNH 1997.78. They were found with about 40 others, freshly killed by poisoning by local authority workers.

9. The proposed neotype for *Vespertilio pygmaeus* Leach, 1825 is registered as specimen no. BMNH 1999.43, deposited 22 April 1999. It is an adult female, weighing 6.9 g and with forearm length 32.1 mm. It was taken (under licence from English Nature) by Dr G. Jones on 1 October 1998 at Chew Valley Lake, Bath and North East Somerset, southwest England (national grid reference ST 582605, 51° 22′ N, 02° 37′W). It was accompanied by one adult male and one adult female in a mating group in a bat box, and both of these echolocated with peak frequencies close to 55 kHz.

10. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to set aside all previous fixations of type specimens for the nominal species *Vespertilio pipistrellus* Schreber, 1774 and *Vespertilio pygmaeus* Leach, 1825, and to designate as the respective neotypes the specimens described in paras. 8 and 9 above;
(2) to place on the Official List of Generic Names in Zoology the name *Pipistrellus* Kaup, 1829 (gender: masculine), type species by monotypy *Vespertilio pipistrellus* Schreber, 1774;
(3) to place on the Official List of Specific Names in Zoology the following names:
  (a) *pipistrellus* Schreber, 1774, as published in the binomen *Vespertilio pipistrellus* and as defined by the neotype designated in (1) above (specific name of the type species of *Pipistrellus* Kaup, 1829);
  (b) *pygmaeus* Leach, 1825, as published in the binomen *Vespertilio pygmaeus* and as defined by the neotype designated in (1) above.

Acknowledgements

We acknowledge the help of Paula Jenkins and the late J. E. Hill (*Department of Zoology, The Natural History Museum, London*), Tony Hutson (*The Bat Conservation Trust, London*) and David Harrison (*Harrison Zoological Museum, Sevenoaks, Kent*).

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Comment on the proposed designation of *Bithinia deschiensiana* Deshayes, 1862 and *Paludina desmarestii* Prévost, 1821 as the respective type species of *Euchilus* Sandberger, 1870 and *Stalioa* Brusina, 1870 (Mollusca, Gastropoda)
(Case 3008; see BZN **55**: 82–86)

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1. Contrary to the statement in para. 3 of the application, 'the majority of authors' have not accepted *Bithinia deschiensiana* Deshayes, 1862 as the type species of *Euchilus*. In fact, at least four classical works of the 20th century cited in the bibliography of Kadolsky's application (Dollfuss, 1912; Cossmann, 1921; Wenz, 1926 and 1939) state *Paludina desmarestii* Prévost, 1821 to be the type species of *Euchilus* (cf. para. 1 of the application) and treat it as a synonym of *Stalioa*. I believe stability would be better served by accepting this synonymy, rather than by designating *B. deschiensiana* as the type species as proposed by Kadolsky.

2. A neotype of *Stalioa prototypica* Brusina, 1872 (see paras. 4 and 5 of the application) has been designated and illustrated by Milan, Sakac & Zagar-Sakac (1974, p. 61 and pl. 1, figs. 4–5), although it is possible that the designation may not meet all the requirements of Article 75 of the Code; *S. prototypica* was stated to be the type species of *Bania* Brusina, 1896 (see para. 8 of the application).

3. My opinion is that *Stoliva* should be treated as an incorrect subsequent spelling of *Stalioa* Brusina, 1870, as mentioned in para. 8 of the application; this is indicated by Fuchs (1877) introducing it in combination with *prototypica* and *valvatoides*, the originally included species of *Stalioa* (cf. para. 6). I am against using the plenary powers to suppress *Stoliva*, as though it were an available name.

Additional reference

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Comment on the proposed conservation of *Hydrobia* Hartmann, 1821 (Mollusca, Gastropoda) and *Cyclostoma acutum* Draparnaud, 1805 (currently *Hydrobia acuta*) by the replacement of the lectotype of *H. acuta* with a neotype; proposed designation of *Turbo ventrosus* Montagu, 1803 as the type species of *Ventrosia* Radoman, 1977; and proposed emendation of spelling of HYDROBIINA Mulsant, 1844 (Insecta, Coleoptera) to HYDROBIUSINA, so removing the homonymy with HYDROBIIDAE Troschel, 1857 (Mollusca)
(Case 3087; see BZN **55**: 139–145; **56**: 56–63, 143–148)

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The phylogeny and systematics of the genus *Hydrobia* Hartmann, 1821 are receiving continuing study at the Academy of Natural Sciences in Philadelphia. More than 500 specimens have been dissected, all the internal organs (including the gill filaments and brain nerves) have been measured, and three genes have been sequenced from about the same number of individuals.

We wish to comment on the application submitted by Prof F. Giusti, Dr G. Manganelli and Dr M. Bodon (BZN **55**: 139–145, September 1998), and on some subsequent comments. We state below that (1) single specimens of *Hydrobia acuta* (Draparnaud, 1805) and *Ventrosia ventrosa* (Montagu, 1803) cannot be distinguished on the basis of shells alone, which are inadequate for unequivocal identification (cf. the comment by Naggs et al. in BZN **56**: 143–144, June 1999); (2) Boeters's (1984) lectotype designation for *H. acuta* was valid under the Code but it will, if not set aside, cause unending confusion (cf. the comment by Boeters et al. in BZN **56**: 57–62, March 1999); (3) Boeters's (1984) action was based on selective and conflicting data and on speculation and we recommend that the Commission set aside the lectotype designation; the refound syntypes of *H. acuta* must be considered unidentifiable; (4) the application submitted by Giusti, Manganelli & Bodon has our complete support.

(1) In our work on *Hydrobia*, so far more than 60 populations from Europe, North America, North Africa and West Asia have been studied by comparative qualitative and quantitative anatomy, as well as molecular genetics using three genes. Fifteen are topotypical populations of nominal species often classified as *Hydrobia*, including *V. ventrosa* and *H. acuta*. In addition, an outgroup comparison with 12 populations of closely related species of the HYDROBIINAE, as well as 20 more populations of the HYDROBIIDAE s.l., has been conducted. The results of this study will be published elsewhere, but for the application the following points are relevant.

(i) The genus *Hydrobia* s.l. should be subdivided into three genera (or subgenera): *Hydrobia* s.s., containing at least three species, including *H. acuta* (sensu Radoman, 1977); *Ventrosia* containing at least four species, including *V. ventrosa*; and *Peringia* Paladilhe, 1874 with *Turbo ulvae* Pennant, 1777 as the type species and only representative.

(ii) If Boeters's (1984) lectotype designation were accepted, then *Hydrobia* would become an older name for *Ventrosia*, the specific name of *V. ventrosa* would become an older name for *H. acuta*, and the group generally known as *Hydrobia* would require a new name.

(iii) Single individuals of *V. ventrosa* and *H. acuta* (sensu Radoman) cannot be distinguished by shell characters alone, except perhaps by the sculpture of the protoconch in juvenile specimens. (This sculpture is generally eroded away in adults). Specimens of *V. ventrosa* tend to have more convex whorls and deeper sutures, whereas the whorls in *H. acuta* are often flatter. However, these are only tendencies. Individual specimens of each species may well have flat or convex whorls, and DNA sequence data do not always confirm species assignments made on the basis of shell morphology. In some localities where the species are sympatric, only about 80% of preliminary identifications are confirmed by DNA sequences. In addition, trematode parasitism, which is common in these species, can affect the shell morphology of over 90% of mature adults in a population. All determinations based only on shell

morphology are therefore speculative and, in the absence of supporting information such as detailed locality data, it is folly to designate a lectotype of a hydrobioid snail using only the shell.

(2) Boeters's (1984) lectotype designation is questionable for a number of reasons. Boeters found at the putative type locality of *Hydrobia acuta* two species with distinctive male and female genitalia. He assigned the taxon with an awl-like penis and a hammer-like bursa to '*H. acuta*' (i.e. *Ventrosia ventrosa* auctt.), and the second taxon with a distally widened penis and a sack-like bursa to *Hydrobia* sp. One of the reasons for identifying the first taxon as *H. acuta* was that, according to Boeters, species of *Hydrobia* were always assigned in the literature to the anatomical characteristics of an awl-like penis and a hammer-like bursa. To prove his assumption, he (1984) listed anatomical features of four '*Hydrobia*' species (*H. ulvae*, *H. ventrosa*, *H. totteni* and *H. procera*), all supposedly with an awl-like penis and/or hammer-like bursa. However, *Hydrobia ulvae* does not have these features. Later (1987), Boeters stated exactly the opposite: *Hydrobia ulvae* 'Unterscheided sich ... durch die sackförmige und nicht hammerförmige Bursa' [differs ... by its sack-like and not hammer-like bursa]. Moreover, all four species listed by Boeters potentially belong to different genera or subgenera: *H. procera* Paladilhe, 1874 is probably a synonym of *Heleobia stagnorum* (Gmelin, 1791); *H. totteni* Morrison, 1954 is a synonym of *H. truncata* (Vanatta, 1924) which belongs, together with *H. ventrosa*, in the genus *Ventrosia*; *H. ulvae* (Pennant, 1777) belongs to the (sub)genus *Peringia*. Boeters (1987) himself assigned *H. ulvae* to the subgenus *Peringia*. Boeters's approach, to predict the general ground plan of a type species by studying anatomical features of non-type species (which may not even belong to the same genus), is unacceptable. Boeters (1984) ignored Mars (1966) and Radoman (1977), who published morphological and anatomical studies of *H. acuta*.

Although claiming that *Hydrobia* species always have an awl-like penis and a hammer-like bursa, Boeters (1980) placed *Hydrobia glyca* (Servain, 1880), a species he figured with the same genitalia as *H. acuta* sensu Radoman, i.e. with a distally enlarged penis, in the genus *Hydrobia*. He (1987) even placed *Hydrobia minoricensis* (Paladilhe, 1875) (a species that, according to our preliminary molecular and anatomical data, is conspecific with *H. acuta* sensu Radoman) in the same subgenus as *H. acuta* sensu Boeters (i.e. *V. ventrosa*), although these species have different genitalia (a distally enlarged vs. an awl-like penis). Although claiming in 1984 that all *Hydrobia* species have a hammer-like bursa, Boeters stated in 1987 that *Hydrobia acuta* (sensu Boeters) had a hammer-shaped bursa but that all other *Hydrobia* did not.

It is unclear why Boeters referred to the second species that he found with *H. acuta* (sensu Boeters) as '*Hydrobia* sp.' although it did not fit his *Hydrobia* concept. Why did he not state what he believed was its generic allocation? We do not agree with the statement (para. 7 of the application) that this second species 'can clearly be identified as *Hydrobia acuta* sensu Radoman (1977)'.

Even more important than all these confusing contradictions is the fact that Boeters (1984) refrained from discussing the possible synonymy of *Hydrobia acuta* (sensu Boeters) and *Ventrosia ventrosa*. Boeters spearheaded anatomical studies in European hydrobiids and he must at least have suspected the synonymy.

However, he never mentioned it, either in his (1984) paper on *H. acuta* or in all his subsequent papers. Thus, in his revision (1988) of the Spanish and Portuguese MOITESSIERIIDAE and HYDROBIIDAE, *V. ventrosa* is not even referred to although in the literature it is frequently reported from the area.

(3) In addition to these confusing contradictions and omissions, two other major problems make Boeters's (1984) lectotype designation questionable: missing locality information and species identification of Draparnaud's (1805) original type material. The type locality of *H. acuta* may be the Étang du Prévost near Palavas-les-Flots, as predicted by Radoman (1977) and as cited in para. 5 of the application, but it could be elsewhere in France as Draparnaud gave no detailed locality information. *Hydrobia acuta* and *V. ventrosa* are frequently sympatric all over the French Mediterranean and Atlantic coasts. If the material originated at the Atlantic coast, a third species, *Peringia ulvae*, could also be part of the type material. This species is usually distinguishable from the other two by its large size, solid shell and very flat whorls. In some cases, especially in places with very low salinity, shells of *P. ulvae* may, however, be virtually indistinguishable from *H. acuta* or *V. ventrosa*. The material could also have originated from the French Biscay coast, an area where *H. acuta* is possibly replaced by a closely related species, *H. glyca*. Besides *Hydrobia*, other hydrobiid species could well be part of the type material as *Heleobia stagnorum* or closely related species are not distinguishable from *Hydrobia* species using shell characters alone. Species of *Hydrobia* and *Heleobia* are frequently sympatric on the Atlantic and Mediterranean coasts. But even if the original type material did originate in the Étang du Prévost near Palavas-les-Flots, and even if it did contain only the two species *H. acuta* and *V. ventrosa*, the species assignment of shells to these taxa is uncertain. Figures 3 and 7 in Giusti, Manganelli & Bodon (1998) make it very clear that species identification is highly dubious.

Considering these facts, any further speculations regarding the identity of Draparnaud's (1805) type material are useless and the syntypes must be considered unidentifiable.

(4) The missing locality information of the type material of *Hydrobia acuta* and the impossibility of a clear identification force the designation of a neotype that is anatomically determined and has exact locality data, as proposed by Giusti, Manganelli & Bodon in their application. The proposed neotype reflects a widely accepted understanding of the species (see Haase, 1993, for a review). Therefore its acceptance would stabilize the use of the specific name *H. acuta* and of the generic names *Hydrobia* and *Ventrosia*. It would also end the controversy caused by the lectotype designation by Boeters (1984).

We therefore urge the Commission to agree to set aside Boeters's lectotype designation and to accept the proposed neotype, thus conserving the common and widely accepted understanding of the genus *Hydrobia* and of its type species *H. acuta*, and of *Ventrosia* and *V. ventrosa*.

Additional reference

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Comment on the proposed conservation of *Disparalona* Fryer, 1968 (Crustacea, Branchiopoda)
(Case 2990; see BZN **54**: 89–91; **55**: 105, 169)

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I write to support the conservation of the name *Disparalona* Fryer, 1968.

The case for the conservation of *Disparalona* is well founded. The genus *Phrixura* Müller, 1867, with which some would replace it, was described from a single, grossly deformed, individual of the species that Müller called *Alona rostrata*, although because of its deformity he failed to recognise it as such. The true identity of the specimen remained unknown for more than 120 years, during which time the name *Phrixura* was never used. Had Müller known the real identity of the specimen he would have assigned it to *A. rostrata*, which he recorded in the same paper as that in which he described *Phrixura rectirostris*. The latter specific name is clearly a synonym of *A. rostrata* and never had any validity.

The number of workers concerned with this nomenclatural problem, raised in his comment (BZN **55**: 105, June 1998) by Grygier, a non-specialist on the group, is irrelevant. In fact, as the original application shows, *Disparalona* has often been referred to by this name. The erection of the genus on functional, as well as morphological, grounds more than 30 years ago led to nomenclatural stability. Previously, species of *Disparalona*, of which there are now several, had appeared under several generic names (see, for example, the synonymic list for *D. rostrata* in Flössner, 1972).

The genus *Phrixura* has no standing. The characters on which it was defined are not merely completely worthless for the purposes of definition, but are totally misleading and do not apply to any taxon, and the use of this name can only lead to confusion. Its suppression, and the conservation of *Disparalona*, would be welcomed by students of the Branchiopods.

Additional reference

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Comments on the proposed conservation of *Phytobius* Dejean, 1835 (Insecta, Coleoptera)
(Case 2957; see BZN **55**: 22–23)

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I consider that the proposal to conserve the generic name *Phytobius* Dejean, 1835 (CURCULIONIDAE) by suppression of *Phytobius* Schönherr, 1833 should not be accepted for the following reasons.

1. Silfverberg (BZN **55**: 22–23) proposes the conservation of *Phytobius* Dejean, 1835 (p. 282) on the grounds that this name, first published by Schönherr in 1833, 'has ever since been used in that [Dejean's] sense' and that 'it is doubtful whether it was Schönherr's intention to introduce a replacement name for *Hydaticus*'.

2. *Phytobius* Schönherr, 1833, as rightly pointed out by O'Brien & Wibmer (1982), is a replacement name for *Hydaticus* Schönherr, 1825 (type species by original designation *Rhynchaenus myriophylli* Gyllenhal, 1813 (p. 152), a junior subjective synonym of *Curculio leucogaster* Marsham, 1802 (p. 253)). When Schönherr noticed that his name was preoccupied by *Hydaticus* Leach, 1817 (Coleoptera: DYTISCIDAE), he (Schönherr, 1833, p. 20) replaced *Hydaticus* Schönherr, 1825 with *Phytobius*, attributing this name to Schmidt, as also did Dejean (1835). Nonetheless, it is clear that the author is Schönherr himself, since at that time it was the custom to cite who (the collector and often seller of an insect) gave it an unpublished name. As the type species of a replacement name and of the name replaced are the same (Article 67h of the Code), Schönherr's (1833) statement that the type species of *Phytobius* is *Rhynchaenus velutus* Beck, 1817 cannot be accepted under modern rules.

3. It cannot be claimed that Schönherr did not give a reason for replacing his *Hydaticus* 'in terms of the modern Code' (para. 2 of Silfverberg's application). The publication by Schönherr (1833) is the first part of his monumental revision of world genera and species of weevils in eight volumes. A plan of the work (*Tabula synoptica familiae curculionidum*), in which were indexed all genera he intended to deal with, was inserted at the beginning of the first volume (Schönherr, 1833, pp. 1 -27).

4. In the third volume, on the pages dealing with *Phytobius*, Schönherr ([1835], p. 458, note) wrote: 'Nomen *Hydaticus* alii generi inter Hydrocantharos (*Dyticus fulvus*, *Hybneri*, *stagnalis* et *transversalis*) dudum a Cel. Leach usitatum'. This reference to the prior use of the name *Hydaticus* by Leach clearly means that *Phytobius* Schönherr, 1833 had been introduced as a replacement name, and this meets the requirements of Art. 67, contrary to Silfverberg's claim.

5. Dejean (1835, p. 282), moreover, in writing: '*Phytobius* Schmidt. *Campylirhynchus* Dej[ean] Cat[alogue]' implicitly followed the nomenclature of Schönherr (1833). It can thus be affirmed that *Phytobius* in Dejean's (1835) original sense is not a taxon different from *Phytobius* Schönherr, 1833.

6. The problem originates from the subsequent designation by Thomson (1859) of *Curculio quadrituberculatus* Fabricius, 1787 as the type species of *Phytobius* Dejean, 1835, a designation accepted by the Commission (Opinion 1529, 1989) on the basis of incomplete and partially inexact statements by Silfverberg (BZN **36**: 252–256, 1980).

7. The assertion by Silfverberg (BZN **55**: 22, para. 3) that *Phytobius* 'has ever since been used' in the sense of Dejean (1835) as determined by Thomson's statement of type species is incorrect: many American authors (e.g. Leconte, 1876; Henshaw, 1885; Dietz, 1896; Blatchley & Leng, 1916; Leng, 1920) have widely used *Phytobius* in the sense of Schönherr, 1833.

8. In addition, several authors not mentioned by Silfverberg (e.g. Colonnelli, 1986; Tempère & Péricart, 1989; McNamara, 1991; Morris, 1991; Abbazzi & Osella, 1992; Strejček, 1993; Dieckmann & Behne, 1994; Abbazzi et al., 1995; Bordoni, 1995; Caldara & O'Brien, 1995; Podlussáni, 1996; Poole & Gentili, 1996; Burakowski et al., 1997; Peck & Thomas, 1998) have used *Phytobius* in the original sense (i.e. that of

Schönherr, 1833) in important publications issued after that by O'Brien & Wibmer (1982). It can be safely affirmed that the current usage of the name *Phytobius* is not in the sense of Dejean (1835) as modified by Thomson, as incorrectly stated by Silfverberg, but in the sense of Schönherr (1833).

9. In consequence there is no reason to suspend the Principles of Priority and Homonymy in this case, since this action would cause additional confusion. The Commission is therefore asked not to accept the proposed conservation of *Phytobius* Dejean, 1835.

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In his application, Dr Silfverberg requests the suppression of *Phytobius* Schönherr, 1833, a replacement name for *Hydaticus* Schönherr, 1825 (non Leach, 1817), and the conservation of *Phytobius* Dejean, 1835, on the grounds that the latter has been the subject of a ruling by the Commission in 1989 (Opinion 1529) and has been placed on the Official List of Generic Names in Zoology. In his earlier application, Silfverberg (BZN **36**: 252–256, 1980) overlooked the existence of *Phytobius* Schönherr, 1833, and with his new application is trying to correct this omission. Publication of the recent application coincided with our finalising a generic catalogue (Alonso Zarazaga & Lyal, in prep.) and our preparation of several applications to the Commission, one of these relating to the point raised in Case 2957.

Several important points are omitted from the Case, and we disagree with others.

1. Silfverberg presents three arguments for doubting whether Schönherr (1833) intended to replace his own name *Hydaticus*: (i) Schönherr attributed *Phytobius* to Schmidt; (ii) he gave no reason for replacing *Hydaticus*; and (iii) he provided a different type species from that of *Hydaticus*. The exact terms used by Schönherr (1833, p. 20) are: 'Genus 208. *Phytobius*. Schmidt.— *Hydaticus*. Nob. olim. Typus: *Phytob. velatus. Rhynch. id.* Beck.'. In Latin, 'Nob.' is an abbreviation of 'Nobis' ('of us', using the plural as a sign of modesty, thus 'of Schönherr'), the word 'olim' means 'formerly' and was the usual way Schönherr introduced replacement names, and the fact that he attributed the new name to another author (Schmidt) is likely to be either because Schmidt suggested the new name, or as recognition of Schmidt for pointing out the homonymy (as stated by Schönherr, [1835], p. 458). Schönherr (1833) does not give reasons for any taxonomic acts in his *Tabula Synoptica*, but presents these in the body of the text elsewhere in his *Genera et Species*

Curculionidum; in this case he refers ([1835], p. 458) to Leach's name having preoccupied the name *Hydaticus*. Schönherr was, of course, not acting in accord with rules not then created, and would have felt it appropriate to provide a new type species for a new name rather than perpetuate the type of *Hydaticus*. We cannot share Silfverberg's point of view that Schönherr's intention in introducing a replacement name is doubtful according to the Code, and share this view with other students of the group, who are using the name (see para. 4 below).

2. Dejean (1835, p. 282) listed *Phytobius* Schmidt with *Campylirhynchus* Dejean, 1821 as a junior synonym, including (among others) species previously placed by Schönherr (1825, col. 583) in *Hydaticus*, and heading the list with *velatus* Germar. The attribution to Schmidt, and the inclusion of *velatus*, suggest strongly that Dejean was using *Phytobius* in the sense of Schönherr (1833). This is borne out by Schönherr (1835, p. 458), who also included *Campylirhynchus* Dejean as a junior synonym of *Phytobius*. *Phytobius* Dejean, 1835 is therefore the same as *Phytobius* Schönherr, 1833 and *Phytobius* Schönherr, 1835. The type of *Phytobius* Schönherr, 1833 is correctly *Rhynchaenus myriophylli* Gyllenhal, 1813, since this was the type species of the replaced *Hydaticus*. Consequently, this is also the type of *Phytobius* 'Dejean, 1835', and the subsequent type designation by Thomson (1859) of *Curculio quadrituberculatus* Fabricius is incorrect.

3. O'Brien & Wibmer (1982, p. 175) pointed out the primacy of *Phytobius* Schönherr, 1833 over *Phytobius* Dejean, 1835 (but see para. 2 above), and were followed by Colonnelli (1986, p. 159) in his key and checklist of PHYTOBIINI (a work omitted by Silfverberg, 1998). O'Brien & Wibmer (1984, p. 297) suggested that the correct name for *Phytobius* auctt. was *Pelenomus* Thomson, 1859 (p. 138), whose type species by original designation is *Curculio comari* Herbst, 1795. The catalogue produced by O'Brien & Wibmer (1982) is widely accepted as an authoritative source of correct nomenclature, so usage of names in that volume is likely to be perpetuated. Colonnelli (1986) more explicity noted that *Phytobius* Dejean, 1835 was a junior homonym of *Phytobius* Schönherr, 1833, and also placed it in synonymy with *Pelenomus*, believing that *Phytobius* Dejean and *Phytobius* Schönherr, 1833 were different taxa.

4. *Phytobius* Schönherr, 1833 is in general use both in checklists (e.g. O'Brien & Wibmer, 1982; Morris, 1991; Abbazzi et al., 1994; Anderson, 1997; Morris, in prep.) and revisionary and other work (e.g. Colonnelli, 1986; Egorov, 1988; Creed & Sheldon, 1994), as is *Pelenomus* including some former members of *Phytobius* Dejean (e.g. O'Brien & Wibmer, 1982; O'Brien & Wibmer, 1984; Morris, 1991; Abbazzi & Osella, 1992; Dauphin, 1992; Abbazzi et al., 1995; Read, 1995; Anderson, 1997; Morris, in prep.).

5. Ruling in favour of the application would necessitate returning to the situation prior to O'Brien & Wibmer (1984), although workers on CURCULIONIDAE have accepted their point of view. The application, to be appropriate, should have been published soon after 1984 and not 14 years later after the new nomenclature has stabilised.

6. The family-group name PHYTOBIINI Gistel, 1856 (p. 370; published as PHYTOBIIDAE), which is the first available name for the tribe where both *Phytobius* Schönherr, 1833 and *Pelenomus* are currently placed, has as type genus *Phytobius* Schönherr, 1833, not *Phytobius* Dejean, 1835.

7. If the application is allowed, the tribal name would have to change either to (i) PHYTOBIINI Thomson, 1859 (published as Phytobiides Thomson, 1859, p. 138), type genus *Phytobius* Dejean, 1835, in the sense of *Curculio quadrituberculatus* as the type species. Colonnelli (1986) inadvertently treated *Phytobius* Dejean as a valid name, although, as pointed out in para. 2 above, *Phytobius* Dejean and *Phytobius* Schönherr, 1833 are the same taxon) or (ii) RHINONCINI Thomson, 1865 (published as Rhinoncides Thomson, 1865, p. 231), type genus *Rhinoncus* Schönherr, 1825 (col. 586; type species *Curculio pericarpius* Linnaeus, 1758, by subsequent designation by Westwood (1838, p. 38)). *Rhinoncus* Schönherr, 1825 was placed on the Official List by a ruling of the Commission (Opinion, 1529, 1989) where its type species designation was confirmed and placed on the Official List of Specific Names. However, this name is an objective synonym of *Cryptorhis* Billberg, 1820 (p. 43; type species designated by Wibmer & O'Brien, 1986, p. 276), an unused name which should have been presented for suppression, being a better candidate than *Phytobius* Schönherr, 1833.

8. We consider that the suppression of *Phytobius* Schönherr, 1833 would cause still more confusion, since it would involve changes in the family-group name or author, and therefore propose to keep the nomenclature as stabilized after 1984 (see Colonnelli, 1986).

9. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to delete the entry for *Phytobius* Dejean, 1835 from the Official List of Generic Names in Zoology;

(2) to place on the Official List of Generic Names in Zoology the name *Phytobius* Schönherr, 1833 (replacement name for *Hydaticus* Schönherr, 1825) (gender: masculine), type species by original designation for *Hydaticus*, *Rhynchaenus myriophylli* Gyllenhal, 1813, a subjective synonym of *Curculio leucogaster* Marsham, 1802;

(3) to place on the Official List of Specific Names in Zoology the name *leucogaster* Marsham, 1802, as published in the binomen *Curculio leucogaster*, valid name of the type species of *Phytobius* Schönherr, 1833;

(4) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the name *Hydaticus* Schönherr, 1825 (a junior homonym of *Hydaticus* Leach, 1817).

Additional references

Alonso Zarazaga, M.A. & Lyal, C.H.C. In prep. *World catalogue of families and genera of Curculionoidea (excepting Scolytidae Latreille, 1807, and Platypodidae Shuckard, 1840).*

Anderson, R.S. 1997. Weevils (Coleoptera: Curculionoidea, excluding Scolytinae and Platypodinae) of the Yukon. Pp. 523–562 *in* Danks, H.V. & Downes, J.E. (Eds.), *Insects of the Yukon.* Biological Survey of Canada (Terrestrial Arthropods), Ottawa.

Billberg, G.J. 1820. *Enumeratio Insectorum in Musaeo Gust. Joh. Billberg. Typis Gadelianis.* [2], 138 pp. Stockholm.

Creed, R.P., Jr. & Sheldon, S.P. 1994. Aquatic weevils (Coleoptera: Curculionidae) associated with northern watermilfoil (*Myriophyllum sibiricum*) in Alberta, Canada. *Entomological News*, **105**(2): 98–102.

Dauphin, P. 1992. Les elatinacées, plantes-hôtes méconnues pour *Nanophyes sahlbergi* (Sahl) et *Pelenomus olssoni* (Isr.) (Col., Curculionidae). *Bulletin de la Société entomologique de France*, **97**(1): 65–68.

Egorov, A.B. 1988. New data on the distribution and ecology of water plant-eating curculionid beetles of subfamily Ceutorhynchinae (Coleoptera, Curculionidae) in the fauna of the Soviet Far East. Pp. 60–66 *in* Levanidova, I.M. & Makarchenko, E.A. (Eds.), *Fauna, systematics and biology of freshwater invertebrates.* Academy of Sciences, USSR, Vladivostok. [In Russian].

Gistel, J. 1856. *Die Mysterien der europäischen Insectenwelt.* 12, 532 pp. Kempten, Dannheimer.

Morris, M.G. In prep. A check list of British weevils.

Read, R.W.J. 1995. Records of Curculionoidea from Cumbria and Dumfriesshire in 1994. *Coleopterist*, **3**(3): 86–87.

Westwood, J.O. 1838. Synopsis of the genera of British insects. *In*: Westwood, J.O. *An introduction to the modern classification of insects.* 587 pp. Longman, London.

(3) H. Silfverberg

Zoological Museum, P.O. Box 17, FIN-00014 Helsingfors, Finland

Although the above comments by Colonnelli and by Alonso Zarazaga & Lyal touch upon noteworthy aspects and should be considered in the Commission's final ruling, we should not be diverted from the main point, which is the status of the name *Phytobius* introduced by Schönherr in 1833. The commenters rely heavily on subsequent works by Schönherr. The Code points out in several places that every work is to be evaluated from its own contents and not from later additions to the matter. Whatever we can surmise about Schönherr's intentions, I do not think that what he actually published in 1833 (see the comments by Alonso Zarazaga & Lyal above) was within the Code's requirements for the introduction of a replacement name. Therefore his designation of *Rhynchaenus velutus* as type species would seem to be a valid definition for the genus, to be changed only by a ruling of the Commission.

My application was submitted to the Commission in November 1994, although not published in the *Bulletin* until March 1998, and included references to works and articles with different interpretations of this situation, among them Colonnelli (1986). For reasons of space such references were not printed with the application, but were available to the Commission and other readers. Since 1994 there have been a number of additional works, some of them using the names as interpreted by O'Brien & Wibmer (1982, 1984) and quoted by the commenters, others again using the names as entered on the Official Lists. We can see that the situation is confused.

Following my original application (BZN **36**: 252–256, 1980) the name *Phytobius* Dejean, 1835 was placed on the Official List of Generic Names in 1989; up to that time no comments were made to the effect that the name had been published by Schönherr in 1833. Whatever the Commission's final decision on my present application (1998), we can at least hope that all workers who wish to contribute to the discussion have been able to do so. My personal opinion is that once a name has been placed on the Official List stability is best maintained if it can be expected to remain there, with the correction of any errors.

AUGOCHLORINI Beebe, 1925 (Insecta, Hymenoptera): corrected authorship and date (not Moure, 1943)
(Case 3054; see BZN **56**: 19–22)

Michael S. Engel

Department of Entomology, American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024–5192, U.S.A.

My application to the Commission, to rule that the family-group name AUGOCHLORINI and other family-group names based on *Augochlora* Smith, 1853 be given precedence over OXYSTOGLOSSINI Schrottky, 1909 and other names based on *Oxystoglossa* Smith, 1853 whenever they are considered to be synonyms, attributed the name AUGOCHLORINI to Moure, 1943. This attribution has been widely used by bee systematists.

However, I now find that Beebe (1925, p. 102) used the name AUGOCHLORIDAE for a group of New World 'bees of the genus *Halictus* and the genus *Augochlora*'. The family-group name should therefore be attributed to Beebe (1925) and not to Moure (1943).

This change of authorship and date does not otherwise affect the application.

Additional reference

Beebe, W. 1925. Studies of a tropical jungle: one quarter of a square mile of jungle at Kartabo, British Guiana. *Zoologica*, **6**: 5–193.

Comments on the proposed conservation of the specific name of *Solenopsis invicta* Buren, 1972 (Insecta, Hymenoptera)
(Case 3069; see BZN **56**: 27–30)

(1) Walter R. Tschinkel

Department of Biological Science, Florida State University, Tallahassee, Florida 32306–3050, U.S.A.

I wish to add my strong support to the request to suppress the name *Solenopsis wagneri* Santschi, 1916 for the fire ant and to add the name *Solenopsis invicta* to the Official List of Specific Names. The literature now contains well over 2000 papers using the name *S. invicta*. To change the name to *S. wagneri* at this point might satisfy the need for priority, but would create unnecessary confusion within the large community of non-taxonomists currently doing research on *S. invicta*. I and many others have spent almost 30 years publishing papers on *S. invicta*, not *S. wagneri*. In addition, *S. invicta* is a name full of wry humor, irony and sly comment. In contrast, *S. wagneri* is obscure, dry and dormant. It is best to let this sleeping name lie or, better yet, kill it.

I therefore fully concur with the case made by Shattuck, Porter & Wojcik for the suppression of *S. wagneri*, and add my voice very loudly to their request.

(2) Edward O. Wilson

Museum of Comparative Zoology, Harvard University, 26 Oxford Street, Cambridge, Massachusetts 02138–2902, U.S.A.

I most urgently support the petition by Shattuck, Porter & Wojcik to conserve the name *Solenopsis invicta* Buren, 1972 for the red imported fire ant, over its newly recognized senior subjective synonym *S. wagneri* Santschi, 1916. Having followed the history of the ant since its discovery in the United States, and the now enormous literature in all branches of biology, and like others used the name *invicta* for a quarter century I am certain it would be a disservice to science, causing great confusion and error to reintroduce *wagneri* to formal usage.

(3) Stephen W. Taber

Biology Department, St Edward's University, Austin, Texas 78704–6489, U.S.A.

As the author of a forthcoming book on fire ants, and as the author of *The World of the Harvester Ants* (Texas A & M University Press, 1998), I would like to voice my opinion on the subject of the red imported fire ant and its name. I believe priority, not convenience, to be of paramount importance. Therefore I advise that Santschi's name *Solenopsis wagneri* be recognized as the senior synonym and replacement name for *Solenopsis invicta* Buren. The adoption of mere convenience as a standard in scientific endeavor can only lead to sloppy science. Furthermore, one can imagine how the authors of Case 3069 would feel if their names were removed from their work at some future date because someone else found it convenient to do so.

(4) S.B. Vinson

Entomology Research Laboratory, College of Agriculture and Life Sciences, Texas A & M University, Texas 77843–2475, U.S.A.

Shattuck et al. have clearly outlined the historical aspects of the issue regarding the conservation of the name *Solenopsis invicta* Buren. This species is considered one of the most serious pests in the Southern United States and Puerto Rico, having recently invaded California. Because of its economic impact the name, *Solenopsis invicta*, has invaded the popular press and has become a household name readily recognized by the public. In addition to the large volume of scientific literature citing *S. invicta* and the popular press, the name *S. invicta* shows up in a number of speciality journals ranging from architecture to soils. Changing the name of *S. invicta* would lead to considerable confusion for both scientists from many disciplines and the general public.

I strongly support the retention of the name *Solenopsis invicta*.

Comments on the proposed designation of a single neotype for *Hemibagrus nemurus* (Valenciennes, 1840) (Osteichthyes, Siluriformes) and *H. sieboldii* (Bleeker, 1846), and of the lectotype of *H. planiceps* (Valenciennes, 1840) as a neotype for *H. flavus* (Bleeker, 1846)
(Case 3061; see BZN **56**: 34–41)

(1) I.M.Kerzhner

Zoological Institute, Russian Academy of Sciences, Universitetskaya nab. 1, St Petersburg 199034, Russia

H.H. Ng et al. state in their application (see BZN **56**: 39, para. 16) that only two species of *Hemibagrus* are known from Java: (a) *H. planiceps* (Valenciennes, 1840) = *anisurus* (Valenciennes, 1840) = *flavus* (Bleeker, 1846), and (b) *H. nemurus* (Valenciennes, 1840) = *sieboldii* (Bleeker, 1846). The two taxonomic species are clearly distinguishable; the identities and synonymies of all five nominal species from Java were stated by Bleeker himself in 1858 and have never been disputed since, and they are not doubted now. The 'possibilities' (p. 37, para. 9 and p. 39, para. 17) that other species may have occurred in Java in the first half of the 19th-century are immaterial, since the speculations are based on neither specimens nor descriptions. The fact that other *Hemibagrus* species occur outside Java and that their taxonomy is difficult has no relevance to the names discussed, since readily identifiable material exists of both the Javanese species.

It is obvious that the 'exceptional circumstances' required by Article 75 of the Code to justify neotype designation are absent in this case, and that there is no need for the Commission to set aside the original types.

(2) M.J.P. van Oijen

Curator of Fishes, Nationaal Natuurhistorisch Museum, Leiden, The Netherlands

The application by Ng et al. contains some errors and omissions which result in wrong conclusions regarding Bleeker specimens; however, these errors do not greatly affect the situation.

As a general introductory point, I should like to mention that when the former Rijksmuseum van Natuurlijke Historie (RMNH) and the Rijksmuseum voor Geologie en Mineralogie (RGM) were merged in 1989 to form the Nationaal Natuurhistorisch Museum (NNM) it was decided that the acronyms for the biological and geological collections would remain unchanged. Thus all the fish specimens are denoted by the prefix RMNH, not by NNM as in the application.

According to Ng et al. (BZN **56**: 35, para. 2) '*Bagrus* [now *Hemibagrus*] *flavus* was described from an unspecified number of specimens of unstated size from somewhere in Java'. *B. flavus* was described by Bleeker (1846) in a paper entitled 'Overzicht der Siluroieden, welke te Batavia voorkomen' [Review of Siluroids occurring in Batavia]; in a previous paper (1844, p. 511) he stated that Silurids could be bought every day in the markets of Batavia (now Jakarta), and it seems likely that his bagrid specimens came from the area of Batavia itself rather than from 'somewhere in Java'. In 1858 Bleeker stated that the 21 specimens of *Bagrus planiceps* he then had (see below) came

from three rivers, one of them being the Tjiliwong which runs through Batavia. In that paper Bleeker stated (p. 155) [in my translation] '*Bagrus planiceps* CV. and *Bagrus anisurus* CV. very probably are the same species, differing only by variations of little importance, which can be considered as individual and ontogenetic variation. To this species also belongs *Bagrus flavus*, which I described more than ten years ago on the basis of a juvenile female'.

The last remark makes it clear that *B. flavus* was based on a single holotype specimen (which cannot now be identified), probably from Batavia, and that references to 'a syntype' (Fricke, 1991) or 'an unspecified number of specimens' (Ng et al.) are in error. After the original description in 1846 *B. flavus* was not mentioned by Bleeker until the 1858 paper, and it seems likely that he soon doubted the validity of his own name. *B. flavus* had been distinguished by the number of branchiostegal rays, but the specimen fitted in the ontogenetic series of *B. planiceps*.

With regard to the number of Bleeker specimens of *B. planiceps*, Ng et al. comment on the discrepancy between the number (21) reported by Bleeker in his Atlas (1862, p. 56) and the number now in the NNM and other museums. However, the Atlas is only a slightly changed version of the 1858 paper, and the number actually referred to the situation in 1858; after that time Bleeker received specimens from Primal in Sumatra and Montrado in Borneo (Bleeker, 1860a, p. 46; 1860b, p. 18), but these localities were not included in the section 'Habit.' in the 1862 Atlas.

Unlike the situation with *B. flavus*, Bleeker's other papers add nothing on *B. sieboldii*; after the description in 1846 Bleeker did not mention his name again until in 1858 (p. 151) he synonymized it with *B. nemurus* Valenciennes, 1840. After that time Bleeker received further specimens of *B. nemurus* from both Java and Borneo.

Additional references

Bleeker, P. 1860a. Achtste Bijdrage tot de kennis der Vischfauna van Sumatra. (Visschen van Benkoelen, Priaman, Tandjong, Palembang en Djambi). *Acta Societatis Regiae Scientiarum Indo-Neêrlandicae*, vol. 8. 88 pp.

Bleeker, P. 1860b. Dertiende Bijdrage tot de kennis der Vischfauna van Borneo. *Acta Societatis Regiae Scientiarum Indo-Neêrlandicae*, vol. 8. 64 pp.

OPINION 1930

Osilinus Philippi, 1847 and *Austrocochlea* Fischer, 1885 (Mollusca, Gastropoda): conserved by the designation of *Trochus turbinatus* Born, 1778 as the type species of *Osilinus*

Keywords. Nomenclature; taxonomy; Gastropoda; TROCHIDAE; molluscs; *Osilinus*; *Austrocochlea*; *Osilinus turbinatus*; *Austrocochlea constricta*.

Ruling

(1) Under the plenary powers all previous fixations of type species for the nominal genus *Osilinus* Philippi, 1847 are hereby set aside and *Trochus turbinatus* Born, 1778 is designated as the type species.

(2) The following names are hereby placed on the Official List of Generic Names in Zoology:
   (a) *Osilinus* Philippi, 1847 (gender: masculine), type species by designation under the plenary powers in (1) above *Trochus turbinatus* Born, 1778;
   (b) *Austrocochlea* Fischer, 1885 (gender: feminine), type species by monotypy *Monodonta constricta* Lamarck, 1822.

(3) The following names are hereby placed on the Official List of Specific Names in Zoology:
   (a) *turbinatus* Born, 1778, as published in the binomen *Trochus turbinatus* (specific name of the type species of *Osilinus* Philippi, 1847);
   (b) *constricta* Lamarck, 1822, as published in the binomen *Monodonta constricta* (specific name of the type species of *Austrocochlea* Fischer, 1885).

(4) The following names are hereby placed on the Official Index of Rejected and Invalid Generic Names in Zoology:
   (a) *Trochocochlea* Mörch, 1852 (a junior objective synonym of *Osilinus* Philippi, 1847);
   (b) *Caragolus* Monterosato, 1884 (a junior objective synonym of *Osilinus* Philippi, 1847 and of *Trochocochlea* Mörch, 1852).

History of Case 3055

An application for the conservation of *Osilinus* Philippi, 1847 and *Austrocochlea* Fischer, 1885 by the designation of *Trochus turbinatus* Born, 1778 as the type species of *Osilinus* was received from Dr Serge Gofas (*Muséum National d'Histoire Naturelle, Paris, France*) and Dr David G. Herbert (*Natal Museum, Pietermaritzburg, South Africa*) on 18 July 1997. After correspondence the case was published in BZN **55**: 9–13 (March 1998). Notice of the case was sent to appropriate journals.

Decision of the Commission

On 1 December 1998 the members of the Commission were invited to vote on the proposals published in BZN **55**: 11. At the close of the voting period on 1 March 1999 the votes were as follows:

Affirmative votes — 22: Bock, Bouchet, Brothers, Cocks, Eschmeyer, Heppell, Kabata, Kerzhner, Kraus, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Schuster, Song, Štys

Negative votes — 1: Lehtinen.
No votes were received from Cogger and Dupuis.
Ride was on leave of absence.

Original references

The following are the original references to the names placed on Official Lists and an Official Index by the ruling given in the present Opinion:

Austrocochlea Fischer, 1885, *Manuel de Conchyliologie et de Paléontologie conchyliologique*, p. 820.

Caragolus Monterosato, 1884, *Nomenclatura generica e specifica di alcune conchiglie mediterranee*, p. 43.

constricta, *Monodonta*, Lamarck, 1822, *Histoire naturelle des animaux sans vertèbres*, vol. 7 (Histoire des mollusques), p. 36.

Osilinus Philippi, 1847, *Zeitschrift für Malakozoologie*, **4**: 19–20.

Trochocochlea Mörch, 1852, *Catalogus conchyliorum quae reliquit D. Alphonso d'Aguirra & Gadea Comes de Yoldi* ..., part 1, p. 154.

turbinatus, *Trochus*, Born, 1778, *Rerum Naturalium Musei Caesarei Vindobonensis*, part 1 (Testacea), p. 340.

OPINION 1931

Campeloma Rafinesque, 1819 (Mollusca, Gastropoda): conserved

Keywords. Nomenclature; taxonomy; Gastropoda; prosobranchs; VIVIPARIDAE; CAMPELOMATINAE; *Campeloma*; *Campeloma crassula*.

Ruling

(1) Under the plenary powers the name *Ambloxis* Rafinesque, 1818 is hereby suppressed for the purposes of the Principle of Priority but not for those of the Principle of Homonymy.

(2) The name *Campeloma* Rafinesque, 1819 (gender: neuter), type species by monotypy *Campeloma crassula* Rafinesque, 1819, is hereby placed on the Official List of Generic Names in Zoology.

(3) The name *crassula* Rafinesque, 1819, as published in the binomen *Campeloma crassula* (specific name of the type species of *Campeloma* Rafinesque, 1819), is hereby placed on the Official List of Specific Names in Zoology.

(4) The name *Ambloxis* Rafinesque, 1818 is hereby placed on the Official Index of Rejected and Invalid Generic Names in Zoology, as suppressed in (1) above.

History of Case 2956

An application for the conservation of the name *Campeloma* Rafinesque, 1819 was received from Dr Arthur E. Bogan (*North Carolina State Museum of Natural Sciences, Raleigh, North Carolina, U.S.A.*) and Dr Earle E. Spamer (*Academy of Natural Sciences of Philadelphia, Philadelphia, Pennsylvania, U.S.A.*) on 11 November 1994. After correspondence the case was published in BZN **55**: 76–80 (June 1998). Notice of the case was sent to appropriate journals.

Decision of the Commission

On 1 March 1999 the members of the Commission were invited to vote on the proposals published in BZN **55**: 78. At the close of the voting period on 1 June 1999 the votes were as follows:

Affirmative votes — 20: Bock, Bouchet, Brothers, Cocks, Eschmeyer, Heppell, Kabata, Kerzhner, Kraus, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Savage, Schuster, Štys

Negative votes — none.

No votes were received from Dupuis, Lehtinen, Patterson and Song.

Cogger and Ride were on leave of absence.

Bouchet commented: 'An additional reason in favour of the conservation of *Campeloma* (para. 5 of the application) is that it is the type genus of the subfamily CAMPELOMATINAE (published as CAMPELOMINAE) Thiele, 1929'. Dupuis declined to vote on the grounds that less than a year had elapsed since publication of the case. [*Editorial note*. An explanation of procedure followed in sending cases for voting was given in BZN **54**: 53–54, March 1997].

Original references

The following are the original references to the names placed on Official Lists and an Official Index by the ruling given in the present Opinion:

Ambloxis Rafinesque, 1818, *American Monthly Magazine and Critical Review*, **3**(5): 355.
Campeloma Rafinesque, 1819, *Journal de Physique, de Chimie, d'Histoire Naturelle*, **88**: 423.
crassula, *Campeloma*, Rafinesque, 1819, *Journal de Physique, de Chimie, d'Histoire Naturelle*, **88**: 423.

OPINION 1932

Holospira Martens, 1860 (Mollusca, Gastropoda): *Cylindrella goldfussi* Menke, 1847 designated as the type species

Keywords. Nomenclature; taxonomy; Gastropoda; UROCOPTIDAE; HOLOSPIRINAE; *Holospira*; *Holospira goldfussi*.

Ruling

(1) Under the plenary powers all previous fixations of type species for the nominal genus *Holospira* Martens, 1860 are hereby set aside and *Cylindrella goldfussi* Menke, 1847 is designated as the type species.

(2) The name *Holospira* Martens, 1860 (gender: feminine), type species by designation under the plenary powers in (1) above *Cylindrella goldfussi* Menke, 1847, is hereby placed on the Official List of Generic Names in Zoology.

(3) The name *goldfussi* Menke, 1847, as published in the binomen *Cylindrella goldfussi* (specific name of the type species of *Holospira* Martens, 1860), is hereby placed on the Official List of Specific Names in Zoology.

History of Case 3047

An application for the designation of *Cylindrella goldfussi* Menke, 1847 as the type species of *Holospira* Martens, 1860 was received from Dr Fred G. Thompson (*Florida Museum of Natural History, University of Florida, Gainesville, Florida, U.S.A.*) on 22 May 1997. After correspondence the case was published in BZN **55**: 87–89 (June 1998). Notice of the case was sent to appropriate journals.

A comment in support of the application from Prof Lance H. Gilbertson (*Orange Coast College, Costa Mesa, California, U.S.A.*) was published in BZN **55**: 236 (December 1998).

It was noted on the voting paper that support for the application had also been received from Dr Barry Roth (*San Francisco, California, U.S.A.*), who recorded: 'I support the application to designate *Cylindrella goldfussi* Menke, 1847 as the type species of *Holospira* Martens, 1860 to ensure nomenclatural stability in this genus and the HOLOSPIRINAE group. This is a good proposal which will bring much-needed stability and replicability to a diverse group of land mollusks that are of much interest to those of us who study the North American biota. The measures that Dr Thompson has proposed will impact on neontological and paleontological studies alike. His selection of *C. goldfussi* as the standard-bearer for the widespread and often-cited genus *Holospira* is the correct one; the reasoning is well laid out in the original proposal'.

Decision of the Commission

On 1 March 1999 the members of the Commission were invited to vote on the proposals published in BZN **55**: 88. At the close of the voting period on 1 June 1999 the votes were as follows:

Affirmative votes 19: Bock, Bouchet, Brothers, Cocks, Eschmeyer, Heppell, Kabata, Kerzhner, Kraus, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Savage, Schuster

Negative votes — 1: Štys.

No votes were received from Dupuis, Lehtinen, Patterson and Song.

Cogger and Ride were on leave of absence.

Štys commented: 'In my view the case relates to a taxonomic problem rather than nomenclatural. One unsuccessful attempt to find specimens of *Cylindrella pilocerei* Pfeiffer, 1841, the type species of *Holospira*, at the type locality does not seem to be enough for the Commission to take any action'. Dupuis declined to vote on the grounds that less than a year had elapsed since publication of the case. [*Editorial note*. An explanation of procedure followed in sending cases for voting was given in BZN **54**: 53–54, March 1997].

Original references

The following are the original references to the names placed on Official Lists by the ruling given in the present Opinion:

goldfussi, *Cylindrella*, Menke, 1847, *Zeitschrift für Malakozoologie*, **1847**(1): 2.

Holospira Martens, 1860, *in* Albers, J.C., *Die Heliceen, nach natürlicher Verwandtschaft systematisch geordnet*, Ed. 2, p. 39.

OPINION 1933

Androctonus caucasicus Nordmann, 1840 (currently *Mesobuthus caucasicus*; Arachnida, Scorpiones): specific name conserved

Keywords. Nomenclature; taxonomy; Arachnida; Scorpiones; BUTHIDAE; *Mesobuthus caucasicus*.

Ruling

(1) Under the plenary powers the specific name *caucasius* Fischer von Waldheim, 1813, as published in the binomen *Scorpio caucasius*, is hereby suppressed for the purposes of the Principle of Priority but not for those of the Principle of Homonymy.

(2) The name *caucasicus* Nordmann, 1840, as published in the binomen *Androctonus caucasicus*, is hereby placed on the Official List of Specific Names in Zoology.

(3) The name *caucasius* Fischer von Waldheim, 1813, as published in the binomen *Scorpio caucasius* and as suppressed in (1) above, is hereby placed on the Official Index of Rejected and Invalid Specific Names in Zoology.

History of Case 3026

An application for the conservation of the specific name of *Androctonus caucasicus* Nordmann, 1840 was received from Dr Victor Fet (*Marshall University, Huntington, West Virginia, U.S.A.*) on 27 August 1996. After correspondence the case was published in BZN **55**: 14–16 (March 1998). Notice of the case was sent to appropriate journals.

Decision of the Commission

On 1 December 1998 the members of the Commission were invited to vote on the proposals published in BZN **55**: 15. At the close of the voting period on 1 March 1999 the votes were as follows:

Affirmative votes — 21: Bock, Bouchet, Brothers, Cocks, Eschmeyer, Heppell, Kabata, Kerzhner, Kraus, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Schuster, Song

Negative votes — 2: Lehtinen and Štys.

No votes were received from Cogger and Dupuis.

Ride was on leave of absence.

Štys commented that he would have preferred the specific name of *Scorpio caucasius* Fischer von Waldheim, 1813 to be treated as a nomen dubium rather than suppressed.

Original references

The following are the original references to the names placed on an Official List and an Official Index by the ruling given in the present Opinion:

caucasicus, *Androctonus*, Nordmann, 1840, Notice sur les scorpions de la faune pontique. *In*: *Voyage dans la Russie méridionale et la Crimée, par la Hongrie, la Valachie et la Moldavie, exécuté en 1837* ..., vol. 3, p. 731.

caucasius, *Scorpio*, Fischer von Waldheim, 1813, *Zoognosia tabulis synopticis illustrata* ..., Ed. 3, vol. 1, p. 401.

OPINION 1934

Paruroctonus Werner, 1934 (Arachnida, Scorpiones): conserved

Keywords. Nomenclature; taxonomy; Arachnida; Scorpiones; VAEJOVIDAE; *Paruroctonus*; Arizona; New Mexico; Mexico.

Ruling

(1) Under the plenary powers the name *Hoffmanniellius* Mello-Leitão, 1934 is hereby suppressed for the purposes of the Principle of Priority but not for those of the Principle of Homonymy.

(2) The name *Paruroctonus* Werner, 1934 (gender: masculine), type species by monotypy of the replaced nominal genus *Uroctonoides* Hoffmann, 1931, *Uroctonoides gracilior* Hoffmann, 1931, is hereby placed on the Official List of Generic Names in Zoology.

(3) The name *gracilior* Hoffmann, 1931, as published in the binomen *Uroctonoides gracilior* and as defined by the lectotype designated by Gertsch & Soleglad (1966) (specific name of the type species of *Paruroctonus* Werner, 1934), is hereby placed on the Official List of Specific Names in Zoology.

(4) The name *Hoffmanniellius* Mello-Leitão, 1934 is hereby placed on the Official Index of Rejected and Invalid Generic Names in Zoology, as suppressed in (1) above.

History of Case 3031

An application for the conservation of *Paruroctonus* Werner, 1934 was received from Dr W. David Sissom (*West Texas A & M University, Canyon, Texas, U.S.A.*), Dr Victor Fet (*Marshall University, Huntington, West Virginia, U.S.A.*) and Dr Matt E. Braunwalder (*Zürich, Switzerland*) on 30 September 1996. After correspondence the case was published in BZN **55**: 17–19 (March 1998). Notice of the case was sent to appropriate journals.

Decision of the Commission

On 1 December 1998 the members of the Commission were invited to vote on the proposals published in BZN **55**: 18–19. At the close of the voting period on 1 March 1999 the votes were as follows:

Affirmative votes — 23: Bock, Bouchet, Brothers, Cocks, Eschmeyer, Heppell, Kabata, Kerzhner, Kraus, Lehtinen, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Schuster, Song, Štys

Negative votes — none.

No votes were received from Cogger and Dupuis.

Ride was on leave of absence.

Original references

The following are the original references to the names placed on Official Lists and an Official Index by the ruling given in the present Opinion:

gracilior, *Uroctonoides*, Hoffmann, 1931, *Anales del Instituto de Biologia, Universidad Nacional Autónoma de México*, **2**(4): 406.

Hoffmanniellius Mello-Leitão, 1934, *Annaes da Academia Brasileira de Sciencias*, **6**(2): 80.
Paruroctonus Werner, 1934, Scorpiones. *In*: *H.G. Bronn's Klassen und Ordnungen des Tierreichs*, Band 5 (Arthropoda), Abt. 4 (Arachnoidea), Buch 8 (Scorpiones, Pedipalpi), Lieferung 1–2, p. 283.

The following is the reference for the designation of the lectotype of *Uroctonoides gracilior* Hoffmann, 1931:

Gertsch, W.J. & Soleglad, M.E. 1966. *American Museum Novitates*, **2278**: 29.

OPINION 1935

Cicada clavicornis Fabricius, 1794 (currently *Asiraca clavicornis*; Insecta, Homoptera): specific name conserved

Keywords. Nomenclature; taxonomy; Homoptera; DELPHACIDAE; *Asiraca clavicornis*; planthoppers.

Ruling

(1) Under the plenary powers the following specific names are hereby suppressed for the purposes of the Principle of Priority but not for those of the Principle of Homonymy:
   (a) *aequinoctialis* Scopoli, 1763, as published in the binomen *Cimex aequinoctialis*;
   (b) *quadristriata* Gmelin, 1790, as published in the binomen *Cicada quadristriata*.

(2) To the entry on the Official List of Specific Names in Zoology for the name *clavicornis* Fabricius, 1794, as published in the binomen *Cicada clavicornis*, is hereby added an endorsement that it is conserved by the suppression of the specific names of *Cimex aequinoctialis* Scopoli, 1763 and *Cicada quadristriata* Gmelin, 1790.

(3) The following names are hereby placed on the Official Index of Rejected and Invalid Specific Names in Zoology:
   (a) *aequinoctialis* Scopoli, 1763, as published in the binomen *Cimex aequinoctialis* and as suppressed in (1)(a) above;
   (b) *quadristriata* Gmelin, 1790, as published in the binomen *Cicada quadristriata* and as suppressed in (1)(b) above.

History of Case 3040

An application for the conservation of the specific name of *Cicada clavicornis* Fabricius, 1794 was received from Dr M.R. Wilson (*National Museums and Galleries of Wales, Cardiff, U.K.*) and Dr M. Asche (*Museum für Naturkunde, Zentralinstitut der Humboldt Universität zu Berlin, Berlin, Germany*) on 28 January 1997. After correspondence the case was published in BZN **55**: 93–95 (June 1998). Notice of the case was sent to appropriate journals.

A comment in support of the application from Dr A.F Emeljanov & Dr I.M. Kerzhner (*Zoological Institute, Russian Academy of Sciences, St Petersburg, Russia*) was published in BZN **55**: 237 (December 1998).

The name *Asiraca* Latreille, [1796], and that of its type species *Cicada clavicornis* Fabricius, 1794, were placed on Official Lists in Opinion 602 (August 1961). However, the senior specific synonyms *Cimex aequinoctialis* Scopoli, 1763 and *Cicada quadristriata* Gmelin, 1790 were not then considered.

Proposal (2) in para. 5 of the application (p. 94) was withdrawn from the voting paper, and proposal (3) was emended to record that the specific name of *Cicada clavicornis* Fabricius, 1794 was conserved by the suppression of the names *Cimex aequinoctialis* Scopoli, 1763 and *Cicada quadristriata* Gmelin, 1790.

Decision of the Commission

On 1 March 1999 the members of the Commission were invited to vote on the proposals published in BZN **55**: 94 with the omission of para. 5(2) and the emendment to para. 5(3) noted above. At the close of the voting period on 1 June 1999 the votes were as follows:

Affirmative votes — 20: Bock, Bouchet, Brothers, Cocks, Eschmeyer, Heppell, Kabata, Kerzhner, Kraus, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Savage, Schuster, Štys

Negative votes — none.

No votes were received from Dupuis, Lehtinen, Patterson and Song.

Cogger and Ride were on leave of absence.

Dupuis declined to vote on the grounds that less than a year had elapsed since publication of the case. [*Editorial note.* An explanation of procedure followed in sending cases for voting was given in BZN **54**: 53–54, March 1997].

Original references

The following are the original references to the names placed on an Official List and an Official Index by the ruling given in the present Opinion:

aequinoctialis, Cimex, Scopoli, 1763, *Entomologia carniolica*, p. 132.

clavicornis, Cicada, Fabricius, 1794, Ryngota. *Entomologia systematica emendata et aucta ...*, vol. 4, p. 41.

quadristriata, Cicada, Gmelin, 1790, *Caroli a Linné Systema Naturae*, Ed. 13, p. 2111.

The following is the reference for the designation of *Cicada clavicornis* Fabricius, 1794 as the type species of the nominal genus *Asiraca* Latreille, [1796]:

Latreille, P.A. 1810. *Considérations générales sur l'ordre naturel des animaux composant les classes des crustacés, des arachnides, et des insectes*, p. 434.

OPINION 1936

Thamnotettix nigropictus Stål, 1870 (currently *Nephotettix nigropictus*; Insecta, Homoptera): specific name conserved

Keywords. Nomenclature; taxonomy; Homoptera; CICADELLOIDEA; *Nephotettix nigropictus*; leafhoppers; rice pests.

Ruling

(1) Under the plenary powers the specific name *nigromaculatus* Motschulsky, 1859, as published in the binomen *Pediopsis nigromaculatus*, is hereby suppressed for the purposes of the Principle of Priority but not for those of the Principle of Homonymy.

(2) The name *nigropictus* Stål, 1870, as published in the binomen *Thamnotettix nigropicta* (sic), is hereby placed on the Official List of Specific Names in Zoology.

(3) The name *nigromaculatus* Motschulsky, 1859, as published in the binomen *Pediopsis nigromaculatus* and as suppressed in (1) above, is hereby placed on the Official Index of Rejected and Invalid Specific Names in Zoology.

History of Case 3039

An application for the conservation of the specific name of *Thamnotettix nigropictus* Stål, 1870 was received from Dr M.R. Wilson (*National Museums and Galleries of Wales, Cardiff, U.K.*) on 28 January 1997. After correspondence the case was published in BZN **55**: 90–92 (June 1998). Notice of the case was sent to appropriate journals.

Decision of the Commission

On 1 March 1999 the members of the Commission were invited to vote on the proposals published in BZN **55**: 91. At the close of the voting period on 1 June 1999 the votes were as follows:

Affirmative votes — 20: Bock, Bouchet, Brothers, Cocks, Eschmeyer, Heppell, Kabata, Kerzhner, Kraus, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Savage, Schuster, Štys

Negative votes — none.

No votes were received from Dupuis, Lehtinen, Patterson and Song.

Cogger and Ride were on leave of absence.

Dupuis declined to vote on the grounds that less than a year had elapsed since publication of the case. [*Editorial note*. An explanation of procedure followed in sending cases for voting was given in BZN **54**: 53–54, March 1997].

Original references

The following are the original references to the names placed on an Official List and an Official Index by the ruling given in the present Opinion:

nigromaculatus, *Pediopsis*, Motschulsky, 1859, *Études Entomologiques, redigées par Victor de Motschulsky*, vol. 8, p. 111.

nigropictus, *Thamnotettix*, Stål, 1870, *Öfversigt af Kongliga Svenska Vetenskaps-Akademiens Förhandlingar*, **27**: 740.

OPINION 1937

Corisa propinqua Fieber, 1860 (currently *Glaenocorisa propinqua*; Insecta, Heteroptera): specific name conserved

Keywords. Nomenclature; taxonomy; Heteroptera; CORIXIDAE; water-boatmen; *Glaenocorisa propinqua*.

Ruling

(1) Under the plenary powers the specific name *dohrnii* Fieber, 1848, as published in the binomen *Corisa dohrnii*, is hereby suppressed for the purposes of the Principle of Priority but not for those of the Principle of Homonymy.

(2) The name *propinqua* Fieber, 1860, as published in the binomen *Corisa propinqua* and as defined by the neotype designated by Jansson (1986), is hereby placed on the Official List of Specific Names in Zoology.

(3) The name *dohrnii* Fieber, 1848, as published in the binomen *Corisa dohrnii* and as suppressed in (1) above, is hereby placed on the Official Index of Rejected and Invalid Specific Names in Zoology.

History of Case 2958

An application for the conservation of the specific name of *Corisa propinqua* Fieber, 1860 was received from Dr A. Jansson (*Zoological Museum, University of Helsinki, Finland*) on 3 January 1995. After correspondence the case was published in BZN **55**: 20–21 (March 1998). Notice of the case was sent to appropriate journals.

A comment in support of the application from Dr P. Štys (*Charles University, Praha, Czech Republic*) was published in BZN **55**: 236–237 (December 1998). Dr Štys also noted that the institution holding the male neotype of *Corisa propinqua* is the Department of Entomology, National Museum, Prague, and that details of the type locality given on the specimen label are 'Jezero Plöckensteinské. Dr Štolc'.

Decision of the Commission

On 1 March 1999 the members of the Commission were invited to vote on the proposals published in BZN **55**: 21. At the close of the voting period on 1 June 1999 the votes were as follows:

Affirmative votes — 20: Bock, Brothers, Cocks, Dupuis, Eschmeyer, Heppell, Kabata, Kerzhner, Kraus, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Savage, Schuster, Štys

Negative votes — 1: Bouchet.

No votes were received from Lehtinen, Patterson and Song.

Cogger and Ride were on leave of absence.

Bouchet commented that, in his view, the case was insufficiently documented.

Original references

The following are the original references to the names placed on an Official List and an Official Index by the ruling given in the present Opinion:

dohrnii, *Corisa*, Fieber, 1848, *Nouveaux Mémoires de la Société Impériale des Naturalistes de Moscou*, **21**: 530.
propinqua, *Corisa*, Fieber, 1860, *Die Europäischen Hemiptera*, part 1, p. 99.

The following is the reference for the designation of the neotype of *Corisa propinqua* Fieber, 1860:
Jansson, A. 1986. *Acta Entomologica Fennica*, **47**: 26.

OPINION 1938

Musca rosae Fabricius, 1794 (currently *Psila* or *Chamaepsila rosae*; Insecta, Diptera): specific name conserved

Keywords. Nomenclature; taxonomy; Diptera; PSILIDAE; *Psila*; *Chamaepsila*; *Psila rosae*; *Chamaepsila rosae*; carrot fly; agricultural pests.

Ruling

(1) Under the plenary powers it is hereby ruled that the specific name *rosae* Fabricius, 1794, as published in the binomen *Musca rosae*, is not invalid by reason of being a junior primary homonym of *Musca rosae* De Geer, 1776.

(2) The name *Chamaepsila* Hendel, 1917 (gender: feminine), type species by original designation *Musca rosae* Fabricius, 1794, is hereby placed on the Official List of Generic Names in Zoology.

(3) The name *rosae* Fabricius, 1794, as published in the binomen *Musca rosae* (specific name of the type species of *Chamaepsila* Hendel, 1917), not invalid by the ruling in (1) above, is hereby placed on the Official List of Specific Names in Zoology.

(4) The name *hennigi* Thompson & Pont, 1994, as published in the binomen *Chamaepsila hennigi*, is hereby placed on the Official Index of Rejected and Invalid Specific Names in Zoology (a junior objective synonym of *Musca rosae* Fabricius, 1794).

History of Case 3068

An application for the conservation of the specific name of *Musca rosae* Fabricius, 1794 was received from Mr Peter Chandler (*Slough, Berkshire, U.K.*) on 12 September 1997. After correspondence the case was published in BZN **55**: 96–98 (June 1998). Notice of the case was sent to appropriate journals.

Decision of the Commission

On 1 March 1999 the members of the Commission were invited to vote on the proposals published in BZN **55**: 97. At the close of the voting period on 1 June 1999 the votes were as follows:

Affirmative votes — 20: Bock, Bouchet, Brothers, Cocks, Eschmeyer, Heppell, Kabata, Kerzhner, Kraus, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Savage, Schuster, Štys

Negative votes — none.

No votes were received from Dupuis, Lehtinen, Patterson and Song.

Cogger and Ride were on leave of absence.

Dupuis declined to vote on the grounds that less than a year had elapsed since publication of the case. [*Editorial note*. An explanation of procedure followed in sending cases for voting was given in BZN **54**: 53–54, March 1997].

Original references

The following are the original references to the names placed on Official Lists and an Official Index by the ruling given in the present Opinion:

Chamaepsila Hendel, 1917, *Deutsche Entomologische Zeitschrift* (Berlin), **1917**: 37.
hennigi, *Chamaepsila*, Thompson & Pont, 1994, *Theses Zoologicae*, **20**: 161.
rosae, *Musca*, Fabricius, 1794, *Entomologia systematica emendata et aucta*, vol. 4, p. 356.

The following is the reference for the designation of *Musca rosae* Fabricius, 1794 as the type species of the nominal genus *Chamaepsila* Hendel, 1917:
Hendel, F. 1917. *Deutsche Entomologische Zeitschrift* (Berlin), **1917**: 37.

OPINION 1939

Trigonocephalus pulcher Peters, 1862 (currently *Bothrops pulcher*, *Bothriechis pulcher* or *Bothriopsis pulchra*; Reptilia, Serpentes): defined by the holotype, and not a neotype; *Bothrops campbelli* Freire Lascano, 1991: specific name placed on the Official List

Keywords. Nomenclature; taxonomy; Reptilia; Serpentes; snakes; pitvipers; VIPERIDAE; *Bothrops pulcher*; *Bothriechis pulcher*; *Bothriopsis pulchra*; *Bothrops campbelli*; *Bothriechis albocarinatus*; Colombia; Ecuador; Peru.

Ruling

(1) The following names are hereby placed on the Official List of Specific Names in Zoology:

(a) *pulcher* Peters, 1862, as published in the binomen *Trigonocephalus pulcher* and as defined by the female holotype (specimen no. ZMB 3868 in the Zoologisches Museum der Humboldt-Universität, Berlin, Germany);

(b) *campbelli* Freire Lascano, 1991, as published in the binomen *Bothrops campbelli* and as defined by the male holotype (specimen no. INHMT 1956 in the herpetological collection of the Instituto Nacional de Higiene y Medicina Tropical 'Leopoldo Izquieta Pérez', Guayaquil, Ecuador).

History of Case 2921

An application for the conservation of usage of the specific names of *Trigonocephalus pulcher* Peters, 1862 and *Bothrops albocarinatus* Shreve, 1934 by the designation of a neotype for *T. pulcher* was received from Dr Beat Schätti (*Muséum d'Histoire Naturelle, Geneva, Switzerland*) and Prof Hobart M. Smith (*University of Boulder, Boulder, Colorado, U.S.A.*) on 14 December 1993. After correspondence the case was published in BZN **54**: 35–38 (March 1997). Notice of the case was sent to appropriate journals.

The application concerned two species of South American pitvipers: a terrestrial species from the Pacific slopes of the Andes from Colombia to Ecuador, and an arboreal species from the Amazonian basin of Colombia, Ecuador and Peru. It stated that, following Boulenger (1896), the specific name of *Bothrops pulcher* (Peters, 1862) had been used for the western terrestrial species, and that the subspecific name of *Bothriechis oligolepis albocarinatus* (Shreve, 1934) was used for the Amazonian arboreal taxon.

In 1993 Schätti & Kramer found that Peters's (1862) Berlin holotype of *pulcher* was a specimen of *albocarinatus*. The name *pulcher* is thus a senior subjective synonym of *albocarinatus*. Schätti & Kramer (1993) used *albocarinatus* for the Amazonian arboreal species and proposed the new name *Porthidium almawebi* for the western terrestrial species. This last name has been used once (Golay, Smith, Broadley, Dixon, McCarthy, Rage, Schätti & Toriba, 1993) since its publication.

The application sought to set aside Peters's (1862) holotype of *pulcher* as the name-bearing specimen and to designate a neotype in accord with use of the name for the western terrestrial species. If approved by the Commission this action would

remove the name *pulcher* from the synonymy of *albocarinatus*, so allowing the use of *pulcher* for the western terrestrial species and *albocarinatus* for the Amazonian arboreal taxon.

Comments opposing the application from Dr Ulrich Kuch (*Forschungsinstitut Senckenberg, Frankfurt am Main, Germany*) and from Dr Ronald L. Gutberlet, Jr. & Dr Michael B. Harvey (*The University of Texas at Arlington, Texas, U.S.A.*) were published in BZN **54**: 245–249 (December 1997) and BZN **55**: 29–32 (March 1998) respectively. These authors proposed that the Commission should not set aside the provisions of the Code: the name *pulcher* would be used for the Amazonian arboreal species, and the first available synonym, *Bothrops campbelli* Freire Lascano, 1991, would be used for the western terrestrial species. They proposed to treat *Bothrops albocarinatus* and *B. alticolus* Parker, 1934 as junior synonyms of *B. pulcher*, and *Porthidium almawebi* as a junior synonym of *Bothrops campbelli*. A reply to these comments from Dr Schätti, one of the authors of the application, was published in BZN **55**: 32–33. (*Note*: in line 2 of the third para. on p. 33, 'objective' should read 'subjective').

A further comment, from Dr Wolfgang Wüster (*University of Wales, Bangor, Wales, U.K.*) published in BZN **55**: 34–36, was in partial agreement with the application. Dr Wüster proposed the use of *albocarinatus* as the name for the Amazonian arboreal species, at the same time proposing the suppression of *pulcher* and the adoption of *campbelli* for the western terrestrial species.

A reply to all the published comments from Prof Hobart Smith, co-author of the application, was published in BZN **55**: 36.

The courses favoured by both Schätti & Smith in their application (to set aside the holotype of *Bothrops pulcher* and to designate a neotype in accord with use of the name for the western terrestrial species, set out in BZN **54**: 37) and by Wüster (to suppress the name *pulcher*, set out in BZN **55**: 35–36) required Commission action. They were offered for voting as Proposals A and B respectively.

The course favoured by Kuch and Gutberlet & Harvey did not involve setting aside the provisions of the Code but use of the name *pulcher* for the Amazonian arboreal species and adoption of *campbelli* for the western terrestrial taxon, as set out in BZN **54**: 248 and BZN **55**: 31–32. This was Proposal C on the voting paper.

The application was offered for voting in two parts. In Vote (1) Commissioners were asked to vote for or against the use of the plenary powers to set aside the provisions of the Code, i.e. Proposals A or B rether than Proposal C. In vote (2) Commissioners were asked to indicate, in the event of a two-thirds majority in favour of setting aside the provisions of the Code in vote (1), a preference for Proposal A or Proposal B.

Decision of the Commission

On 1 December 1998 the members of the Commission were invited to vote as set out above. At the close of the voting period on 1 March 1999 the votes were as follows:

Vote 1. Affirmative votes — 11: Bock, Eschmeyer, Heppell, Mahnert, Minelli, Nye, Papp, Savage, Schuster, Štys, Song

Negative votes — 12: Bouchet, Brothers, Cocks, Kabata, Kerzhner, Kraus, Lehtinen, Macpherson, Martins de Souza, Mawatari, Nielsen and Patterson.

No votes were received from Cogger and Dupuis.

Ride was on leave of absence.

Since there was a majority against the use of the plenary powers to set aside the provisions of the Code, the specific name of *Trigonocephalus pulcher* Peters, 1862 is placed on the Official List defined by the female holotype; the name relates to the arboreal species of pitviper from the Amazonian basin of Colombia, Ecuador and Peru. The name *Bothrops campbelli* Freire Lascano, 1991, defined by the male holotype, is also placed on the Official List; it refers to the terrestrial pitviper species from the Pacific slopes of the Andes from Colombia and Ecuador.

The names *Bothrops albocarinatus* Shreve, 1934 and *B. alticolus* Parker, 1934 are junior subjective synonyms of *T. pulcher*; *Porthidium almawebi* Schätti & Kramer, 1993 is a junior subjective synonym of *Bothrops campbelli*.

The results of vote (2) are omitted as they are superfluous.

Original references

The following are the original references to the names placed on an Official List by the ruling given in the present Opinion:

campbelli, *Bothrops*, Freire Lascano, 1991, *Dos nuevas especies de* Bothrops *en el Ecuador* (*Serpientes venenosas*), p. 2.

pulcher, *Trigonocephalus*, Peters, 1862, *Monatsberichte der Königlichen Preussischen Akademie der Wissenschaften zu Berlin*, **1862**: 672, footnote.

OPINION 1940

Hoplocephalus vestigiatus De Vis, 1884 (Reptilia, Serpentes): specific name placed on the Official List

Keywords. Nomenclature; taxonomy; Reptilia; Serpentes; snakes; ELAPIDAE; *Demansia vestigiatus*; *Demansia atra*; northern Australia; southern New Guinea.

Ruling

(1) The name *vestigiatus* De Vis, 1884, as published in the binomen *Hoplocephalus vestigiatus*, is hereby placed on the Official List of Specific Names in Zoology.

History of Case 2920

An application for the conservation of the specific name of *Demansia atra* Macleay, 1884 ([29 November]) by the suppression of *Hoplocephalus vestigiatus* De Vis, 1884 (13 September) was received from Prof Hobart M. Smith (*University of Colorado, Boulder, Colorado, U.S.A.*) and Dr Van Wallach (*4 Potter Park, Cambridge, Massachusetts, U.S.A.*) on 13 December 1993. After correspondence the case was published in BZN **54**: 31–34 (March 1997). Notice of the case was sent to appropriate journals.

A comment opposing the application from Dr Glenn M. Shea (*University of Sydney, New South Wales, Australia*) was published in BZN **55**: 115–118 (June 1998). Shea considered that the specific name of *Hoplocephalus vestigiatus* De Vis, 1884, which has priority over its synonym *Demansia atra* Macleay, 1884, should be used as valid for the Whip Snake of northern Australia and southern New Guinea. Shea's paper, cited as 'in press' in his comment (BZN **55**: 116, 117), was published in *The Beagle. Records of the Museums and Art Galleries of the Northern Territory*, **14**: 41–61 in October 1998.

The authors of the application accepted the arguments put forward by Dr Shea in his opposing comment and accordingly withdrew their application.

To provide a record of the case the Commission was asked to place on the Official List of Specific Names in Zoology the name *vestigiatus* De Vis, 1884, as published in the binomen *Hoplocephalus vestigiatus*.

Decision of the Commission

On 1 December 1998 the members of the Commission were invited to vote on the proposal to place the specific name of *Hoplocephalus vestigiatus* De Vis, 1884 on the Official List. At the close of the voting period on 1 March 1999 the votes were as follows:

Affirmative votes — 22: Bock, Bouchet, Brothers, Cocks, Eschmeyer, Heppell, Kabata, Kraus, Lehtinen, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Patterson, Savage, Schuster, Song, Štys

Negative votes — 1: Kerzhner.

No votes were received from Cogger and Dupuis.

Ride was on leave of absence.

Original reference

The following is the original reference to the name placed on an Official List by the ruling given in the present Opinion:

vestigiatus, *Hoplocephalus*, De Vis, 1884, *The Brisbane Courier*, **39**, No. 8324: 5.

OPINION 1941

Australopithecus afarensis Johanson, 1978 (Mammalia, Primates): specific name conserved

Keywords. Nomenclature; taxonomy; Primates; hominids; Pliocene; *Australopithecus afarensis*; East Africa.

Ruling

(1) Under the plenary powers the specific name *africanus* Weinert, 1950, as published in the binomen *Meganthropus africanus*, is hereby suppressed for the purposes of the Principle of Priority but not for those of the Principle of Homonymy.

(2) The name *Praeanthropus* Senyürek, 1955 (gender: masculine), type species by monotypy *Meganthropus africanus* Weinert, 1950 (a suppressed senior subjective synonym of *Australopithecus afarensis* Johanson, 1978), is hereby placed on the Official List of Generic Names in Zoology.

(3) The name *afarensis* Johanson, 1978, as published in the binomen *Australopithecus afarensis* and as defined by the lectotype (specimen L.H.4 from Laetoli, preserved in the National Museums of Kenya, Nairobi) designated by Johanson, White & Coppens (1978) (first available subjective synonym of *Meganthropus africanus* Weinert, 1950, the type species of *Praeanthropus* Senyürek, 1955), is hereby placed on the Official List of Specific Names in Zoology.

(4) The name *africanus* Weinert, 1950, as published in the binomen *Meganthropus africanus* and as suppressed in (1) above, is hereby placed on the Official Index of Rejected and Invalid Specific Names in Zoology.

History of Case 2998

An application for the conservation of the specific name of *Australopithecus afarensis* Johanson, 1978 was received from Dr Colin Groves (*Australian National University, Canberra, Australia*) on 29 August 1995. After correspondence the case was published in BZN **53**: 24–27 (March 1996). Notice of the case was sent to appropriate journals.

Comments in support of the application from Prof Tim White (*Museum of Vertebrate Zoology, University of California, Berkeley, California, U.S.A.*), Prof Paul Renné (*Geochronology Center, Berkeley, California, U.S.A.* and *Department of Geology, University of California, Berkeley, California*), Prof Christopher Stringer (*The Natural History Museum, London, U.K.*) and Dr James C. Ohman (*Hominid Palaeontology Research Group, New Medical School, University of Liverpool, Liverpool, U.K.*) were published in BZN **55**: 241–243 (December 1998).

It was noted on the voting paper that, if the proposals were approved, the valid name of the type species of *Praeanthropus* Senyürek, 1955 (should that name be used taxonomically; paras. 6 and 7 of the application) would be *P. afarensis* (Johanson, 1978).

Decision of the Commission

On 1 March 1999 the members of the Commission were invited to vote on the proposals published in BZN **53**: 26. At the close of the voting period on 1 June 1999 the votes were as follows:

Affirmative votes — 21: Bock, Bouchet (part), Brothers, Cocks, Dupuis (part), Eschmeyer, Heppell, Kabata, Kerzhner, Kraus, Macpherson, Mahnert, Martins de Souza, Mawatari, Minelli, Nielsen, Nye, Papp, Savage, Schuster, Štys

Negative votes — none.

No votes were received from Lehtinen, Patterson and Song.

Cogger and Ride were on leave of absence.

Bouchet voted in favour of proposals (1), (2) and (4) in para. 8, but against proposal (3); he commented: 'I approve the intention to conserve the name *Australopithecus afarensis* against the unused senior subjective synonym *Meganthropus africanus* Weinert, 1950. However, I object to crediting authorship of the name *Australopithecus afarensis* to Johanson (1978), rather than to Johanson, White & Coppens (1978)'. Brothers commented: 'Viewed from the strictly nomenclatural perspective, there would be no need to deviate from the provisions of the Code were the taxa concerned not of such general interest outside the realms of palaeontology and zoology per se. Pragmatism dictates that the proposals be supported under these exceptional circumstances'. Dupuis commented: 'Je vote pour la suppression en nomenclature du nom spécifique *africanus* Weinert (points (1) et (4)) mais je vote contre sa mention en taxinomie comme synonyme subjectif d'*afarensis* (point (2)). Je vote contre (2) car il me paraît inutile d'officialiser en nomenclature le nom générique *Praeanthropus* qui, en taxinomie 'has not been used since its publication' et qui, par pure hypothèse, 'will be needed in the future'.

Original references

The following are the original references to the names placed on Official Lists and an Official Index by the ruling given in the present Opinion:

afarensis, *Australopithecus*, Johanson, 1978, *in* Hinrichson, D., *New Scientist*, **78**(1105): 571.

africanus, *Meganthropus*, Weinert, 1950, *Zeitschrift für Morphologie und Anthropologie*, **42**(1): 139.

Praeanthropus Senyürek, 1955, *Belleten* (Ankara), **19**: 33.

The following is the reference for the designation of the lectotype of *Australopithecus afarensis* Johanson, 1978:

Johanson, D.C., White, T.D. & Coppens, Y. 1978. *Kirtlandia* (Cleveland), **28**: 2.

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BULLETIN OF ZOOLOGICAL NOMENCLATURE

Volume 56, part 4 (pp. 225–294) 17 December 1999

Notices

(a) *Invitation to comment*. The Commission is authorised to vote on applications published in the *Bulletin of Zoological Nomenclature* six months after their publication but this period is normally extended to enable comments to be submitted. Any zoologist who wishes to comment on any of the applications is invited to send his contribution to the Executive Secretary of the Commission as quickly as possible.

(b) *Invitation to contribute general articles*. At present the *Bulletin* comprises mainly applications concerning names of particular animals or groups of animals, resulting comments and the Commission's eventual rulings (Opinions). Proposed amendments to the Code are also published for discussion.

Articles or notes of a more general nature are actively welcomed provided that they raise nomenclatural issues, although they may well deal with taxonomic matters for illustrative purposes. It should be the aim of such contributions to interest an audience wider than some small group of specialists.

(c) *Receipt of new applications*. The following new applications have been received since going to press for volume 56, part 3 (published on 30 September 1999). Under Article 80 of the Code, existing usage is to be maintained until the ruling of the Commission is published.

(1) *Eudorylas* Aczél, 1940 (Insecta, Diptera): proposed designation of *Pipunculus fuscipes* Zetterstedt, 1844 as the type species. (Case 3132). M. De Meyer & J. Skevington.

(2) *Peristernia* Mörch, 1852 (Mollusca, Gastropoda): proposed designation of *Turbinella nassatula* Lamarck, 1822 as the type species. (Case 3133). M.A. Snyder.

(3) *Rana cryptotis* Boulenger, 1907 (currently *Tomopterna cryptotis*; Amphibia, Anura): proposed precedence of the specific name over that of *Chiromantis kachowskii* Nikolsky, 1900. (Case 3134). M.J. Largen & L.J. Borkin.

(4) *Scyllarus orientalis* Lund, 1793 (currently *Thenus orientalis*; Crustacea, Decapoda): proposed replacement of syntype by a neotype. (Case 3135). P.J.F. Davie & T.E. Burton.

(5) *Crotaphytus vestigium* Smith & Tanner, 1972 (Reptilia, Sauria): proposed conservation of the specific name. (Case 3136). J.A. McGuire.

(6) *Lopholaimus* Gould, 1841 (Aves, Columbiformes) and the specific names of *Columba melanoleuca* Latham, 1802, *C. spadicea* Latham, 1802 and *Geopelia placida* Gould, 1844: proposed conservation. (Case 3137). R. Schodde & W.J. Bock.

(7) *Eolophus* Bonaparte, 1854 (Aves, Psittaciformes): proposed conservation; *Psittacus haematodus moluccanus* Gmelin, 1788 (currently *Trichoglossus h. moluccanus*): proposed conservation of the subspecific name. (Case 3138). R. Schodde & W.J. Bock.

(8) *Cuculus saturatus* Hodgson, 1843, *C. basalis* Horsfield, 1821 and *C. plagosus* Latham, 1802 (Aves, Cuculiformes): proposed conservation of the specific names. (Case 3139). I.J. Mason, R. Schodde & W.J. Bock.

(9) *Sceloporus occidentalis* Baird & Girard, 1852 (Reptilia, Sauria): proposed retention of neotype as the name-bearing type despite rediscovered syntypes. (Case 3140). E.L. Bell, H.M. Smith & D. Chiszar.

(10) PERGIDAE Ashmead, 1898 (Insecta, Hymenoptera): proposed precedence over PTERYGOPHORIDAE Cameron, 1878. (Case 3141). S. Schmidt et al.

(11) *Mimeta bouruensis* Wallace, 1863 (currently *Oriolus bouruensis*; Aves, Passeriformes): proposed conservation of the specific name and designation of a neotype. (Case 3142). E.C. Dickinson, S. Somadikarta, C. Voisin & J.-F. Voisin.

(12) *Euphryne obesus* Baird, 1858 (currently *Sauromalus obesus*; Reptilia, Sauria): proposed precedence of the specific name over that of *Sauromalus ater* Duméril, 1856. (Case 3143). R.R. Montanucci et al.

(13) *Bruchus unicolor* Olivier, 1795 (currently *Bruchidius unicolor*; Insecta, Coleoptera): proposed designation of a replacement neotype. (Case 3144). M.F. Zampetti.

(d) *Rulings of the Commission.* Each Opinion published in the *Bulletin* constitutes an official ruling of the International Commission on Zoological Nomenclature, by virtue of the votes recorded, and comes into force on the day of publication of the *Bulletin*.

The International Code of Zoological Nomenclature

The new and extensively revised 4th Edition of the *International Code of Zoological Nomenclature* has now been published. It will come into effect on 1 January 2000 and will entirely supersede the current (1985) edition. Some notes about the new edition, which contains many new provisions, will be found on the Commission's Website (www.iczn.org).

The price of the 4th Edition is £40 or $65; the following discounts are offered:

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Individual purchasers of the Code are offered a 50% discount on one copy of the following publications for personal use:

The Official Lists and Indexes of Names and Works in Zoology (1987) — reduced from £60 to £30 and from $110 to $55;

Towards Stability in the Names of Animals — a History of the International Commission on Zoological Nomenclature 1895–1995 (1995) — reduced from £30 to £15 and from $50 to $25;

The Bulletin of Zoological Nomenclature (the Commission's quarterly journal) — discount valid for up to 5 years; for 2000 the discounted price would be £55 or $100.

The Code is published in a bilingual volume (English and French). Official texts in a number of other languages are planned and their availability will be announced on the Commission's Website.

The linguistic appendices in the 3rd Edition have not been included in the new edition; copies of these may be obtained without charge from ITZN.

International Trust for Zoological Nomenclature

Financial Report for 1998

The Trust's deficit of £14,739 for 1998 was significantly higher than in previous years. A fall in the amount received from donations was the main reason for the large increase in the deficit, though some large donations remained — including £5000 from the Royal Society of London. Especially significant was the donation of £1181 from the International Union of Biological Sciences. Even though sales of the 4th Edition of the *International Code of Zoological Nomenclature* will generate valuable income for a few years, it is clear that long-term support of the Commission's work must come from an international funding agency.

More than half of the Trust's income came from sales of publications, mainly from the *Bulletin of Zoological Nomenclature* which yielded an income of £26,238. Sales of the *Official Lists and Indexes*, the third edition of the *International Code of Zoological Nomenclature* and the Centenary History of the Commission brought the total income from publications to £28,234. Income from grants and donations of £13,472, interest and investment income of £9899, and capital gain of £3125 from the sale of part of the Trust's reserve fund brought the total income for the year to £54,730. This was £6541 less than the income for 1997.

The main expenditure was £57,937 for the salaries and National Insurance of the Secretariat of the International Commission on Zoological Nomenclature. Printing of the *Bulletin of Zoological Nomenclature* and distribution of all publications amounted to £9006. Other costs for preparation of the 4th edition of the Code (£1195), office expenses (£843) and depreciation of office equipment (£488) brought the total expenditure to £69,469.

The Secretariat of the Commission was again housed in The Natural History Museum, London, whom we thank for their continuing support. The Trust wishes to express its thanks to all the donors listed below who contributed to its work during the year. Continuation of the work of the Trust for the international zoological and palaeontological community is only possible because of the support received from its donors.

M.K. HOWARTH
Secretary and Managing Director
19 April 1999

List of donations and grants received during the year 1998

American Association for Zoological Nomenclature	£443
Biosis, U.K.	£1200
European Association for Zoological Nomenclature	£843
Ichthyological Society of Japan	£42
International Union of Biological Sciences	£1181
Palaeontological Association, U.K.	£1000
Royal Danish Academy of Sciences and Letters	£94
Royal Entomological Society of London	£300
Royal Society of London	£5000
St John's College, Cambridge	£250

Stockholm Natural History Museum	£200
Systematics Association, U.K.	£1000
Toyota Foundation, Japan	£1769
Zoological Society of London	£150
Total	£13472

INTERNATIONAL TRUST FOR ZOOLOGICAL NOMENCLATURE INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 DECEMBER 1998

Income		
SALE OF PUBLICATIONS		
Bulletin of Zoological Nomenclature	£26238	
International Code of Zoological Nomenclature	1264	
Official Lists and Indexes	312	
Centenary History	420	
	28234	
GRANTS AND DONATIONS		13472
BANK AND INVESTMENT INTEREST		9899
CAPITAL GAIN ON INVESTMENTS		3125
		54730
Expenditure		
SALARIES, NATIONAL INSURANCE AND FEES	57937	
OFFICE EXPENSES	843	
PRINTING AND DISTRIBUTION OF PUBLICATIONS	9006	
PREPARATION OF 4TH EDITION OF CODE	1195	
DEPRECIATION OF OFFICE EQUIPMENT	488	
		69469
Deficit for the year		£14739

Case 3075

Strongylus tetracanthus Mehlis, 1831 (currently *Cyathostomum tetracanthum*) and *C. catinatum* Looss, 1900 (Nematoda): proposed conservation of usage by the designation of a neotype for *C. tetracanthum*

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Abstract. The purpose of this application is to conserve the usage of the names *Cyathostomum tetracanthum* (Mehlis, 1831) and *C. catinatum* Looss, 1900 for two cyathostome nematodes (superfamily STRONGYLOIDEA) parasitic in the intestines of horses and related animals. A lectotype for *C. tetracanthum* designated by Hartwich (1986) would make this name a senior synonym of *C. catinatum*, and it is proposed that this designation be set aside; a neotype is proposed for *Strongylus tetracanthus* Mehlis, 1831 (the type species of *Cyathostomum* Molin, 1861), and the same specimen is designated as the lectotype of *Trichonema aegyptiacum* Railliet, 1900; the latter name had been established for *C. tetracanthum* as understood in modern times.

Keywords. Nomenclature; taxonomy; Nematoda; STRONGYLOIDEA; *Cyathostomum*; *Cyathostomum tetracanthum*; *Cyathostomum aegyptiacum*; *Cyathostomum catinatum*; nematodes; strongylid worms; cyathostomes; horse parasites.

---

1. Mehlis (1831, p. 79) established the nominal species *Strongylus tetracanthus* for nematodes parasitic in the large intestine of horses in Germany. Gurlt (1831, p. 355) gave a more extensive description of *S. tetracanthus* Mehlis, referring to large and small 'varieties' which represent adults and probable fourth stage larvae curled in the mucosa. Gurlt noted that a briefly described species *S. armatus* Rudolphi, 1802 might have been included in the material called *S. tetracanthus* by Mehlis, but he adopted the latter name and the unidentifiable *S. armatus* has not been used as a valid name for a taxon in the past 130 years.

2. Diesing (1851, p. 305) placed *Strongylus tetracanthus* in the genus *Sclerostoma* Rudolphi, 1808, and regarded *Sclerostoma quadridentatum* Dujardin, 1845 (p. 258), small strongyles of farm horses, as being the same species.

3. Wedl (1856, p. 53) renamed *Sclerostoma tetracanthum* as *S. hexacanthum*, because he saw two additional 'spines' on the anterior end and considered that this

character should be reflected in the specific name. *Sclerostoma hexacanthum* is thus a junior objective synonym of *Strongylus tetracanthum*.

4. Molin (1861, p. 453) established the genus *Cyathostomum* with *Strongylus tetracanthus* as the type species by monotypy, because he considered this species to be generically distinct from the others which Diesing (1851) had placed in *Sclerostoma*. Molin mentioned the authors mentioned above, and also had additional specimens which he referred to *C. tetracanthum*.

5. Looss (1900, pp. 156–157) recognised that the specific name *tetracanthum* Mehlis had by then been applied to several species; he used the name *Cyathostomum tetracanthum* for one (the commonest found by him in Egypt, where he was working) of these and the new name *C. catinatum* for another. Two years later (Looss, 1902, p. 124) he provided a detailed description of *C. tetracanthum* 'Mehlis partim Looss' from horses and donkeys in Egypt, although this differed in some respects from that given by Mehlis (1831). Looss (1902, p. 128) also extended his previous description of *C. catinatum*, and illustrated both this and the species he called *C. tetracanthum*.

6. Railliet (1923, p. 13) proposed that the generic name *Trichonema* Cobbold, 1874 (p. 83; based on a new nominal species *T. arcuatum*, later synonymized with *C. tetracanthum*) should be adopted instead of *Cyathostomum* Molin, 1861 because of the similarity of the latter name to *Cyathostoma* Blanchard, 1849, the name of a strongylid genus parasitic in birds. However, although the similarity of the latter two generic names (each meaning 'cup-mouthed') is unfortunate, they are not homonyms under modern Codes. Railliet (pp. 13–14) proposed that the specimens studied by Looss (1900 and 1902; see para. 5 above) should be called *Trichonema aegyptiacum* after their place of collection; the species concerned is now known not to be confined to Egypt and, like virtually all soil-transmitted nematode parasites of horses, is cosmopolitan in distribution (Lichtenfels, 1975, p. 3). In addition to horses, it has been reported from zebras and from the donkey (*Equus asinus*) in Africa and North America. Based on the descriptions of *Strongylus tetracanthus* provided by Mehlis (1831) and Gurlt (1831), Railliet concluded that *Cylicostomum insigne* Boulenger, 1917 was a junior synonym of *Trichonema tetracanthum* (Mehlis).

7. Le Roux (1924, p. 116) incorrectly declared *Strongylus tetracanthus* to be a 'nomen nudum' because the description provided by Mehlis (1831) did not allow the species to be identified unambiguously. Le Roux gave the commonly found *Cylicostomum longibursatum* Yorke & Macfie, 1918 as the type species of *Trichonema* Cobbold, 1874 and *T. aegyptiacum* Railliet, 1923 as the type species of the subgenus *Trichonema (Cylicostomum)*; *Cylicostomum* is an alternative spelling by Railliet (1901, p. 40) of *Cylichnostomum* Looss, 1901 (p. 36). However, these designations by Le Roux are invalid; the nominal species were not originally included in the genus-group taxa concerned, and *Cylichnostomum* was published as a new replacement name (nomen novum) for *Cyathostomum* because of the latter's supposed homonymy. Cram (1924) also placed *Trichonema aegyptiacum* Railliet, 1923 in *Cylicostomum*, but used this name at generic rank. Yorke & Maplestone (1926, p. 54) synonymised *Cyathostomum* and *Trichonema*, but continued to use *Trichonema* as the valid name; they treated *T. aegyptiacum* as a synonym of *T. tetracanthum*.

8. McIntosh (1951) reintroduced *Cyathostomum* Molin, 1861 as a valid name and accepted the nominal species *S. tetracanthus* Mehlis, 1831 as the type species. While this correct typification was followed by some workers (e.g. Yamaguti, 1961; Levine,

1968; Lichtenfels, 1975 and 1980), others (e.g. Popova, 1958; Kotlán, 1960; Barus, 1962) have cited *Trichonema aegyptiacum* Railliet, 1923 as the type species.

9. Hartwich (1986, pp. 63–71) surveyed the literature on *Strongylus tetracanthus* and also studied the material in the Mehlis collection stored in the Zoologischen Museum in Berlin. Based on the classification of Lichtenfels (1975), Hartwich distinguished 10 species in the Mehlis material and suggested that to stabilize nomenclature it would be appropriate to attach the name *S. tetracanthus* to one of them. He was unable to identify specimens corresponding to the description of *Cyathostomum tetracanthum* by Looss (1900 and 1902; see para. 5 above), and called *T. aegyptiacum* by Railliet, or to those synonymised with *Cylicostomum insigne* Boulenger, 1917 or *C. longibursatum* Yorke & MacFie, 1918 by Railliet and Le Roux respectively (see paras. 6 and 7 above). Hartwich considered that stability would be least disturbed by applying the name *Cyathostomum tetracanthum* to the species described by Looss (1900) as *C. catinatum*, even though Looss had distinguished between *C. tetracanthum* and his own *C. catinatum* (para. 5 above) and provided clear descriptions of these two species. Hartwich proposed that *C. tetracanthum* sensu Looss should be called *C. aegyptiacum* (Railliet, 1923) (see para. 6 above). Hartwich designated a lectotype of *C. tetracanthum* (Mehlis, 1831) from the Mehlis material, but in the taxonomic sense of *C. catinatum* Looss, 1900. The material used by Molin (1861) when he established *Cyathostomum* is not extant, so Hartwich could not determine whether Molin had access to this taxonomic species.

10. To our knowledge only Dvoinos & Kharchenko (1994) have followed Hartwich in using the name *C. tetracanthum* in the sense of *C. catinatum*, perhaps because Hartwich's 1986 paper was published in a German museum publication with limited distribution. His action in changing the name of *C. tetracanthum* (sensu Looss) to *C. aegyptiacum* and renaming *C. catinatum* as *C. tetracanthum* has the potential to cause considerable confusion with the names of these two species. Our intention of approaching the Commission was discussed with Dr Hartwich, and he replied (pers. comm., 28 July 1997) 'With regard to your proposal to validate Looss's *C. tetracanthum*, I agree to ask the ICZN'. Our proposal was outlined at the Workshop on the *Systematics of cyathostomes of horses* held at the *16th International Conference of the World Association for the Advancement of Veterinary Parasitology* (10–15 August 1997, South Africa), and the participants agreed (i) that *Cyathostomum tetracanthum* Mehlis, 1831, the type species of *Cyathostomum* Molin, 1861, should be defined in the sense of Looss (1900 and 1902; i.e. as a senior synonym of *Trichonema aegyptiacum* Railliet, 1923) and (ii) that *C. catinatum* Looss, 1900 should be retained as a valid name for a distinct species. It should be noted that veterinary interest in small strongyle nematodes is high, because of increases in the number of clinical cases and the difficulty of treatment due to resistance to the available drugs (Herd, 1990; Klei & French, 1998).

11. To achieve the aims mentioned in the previous paragraph, we propose that one of Looss's specimens of '*Cyathostomum tetracanthum* Mehlis' preserved in the U.S. National Parasite Collection in Beltsville (Maryland) should be designated as the neotype of that species (i.e. of *Strongylus tetracanthus* Mehlis, 1831). This specimen is a syntype of *Trichonema aegyptiacum* Railliet, 1923 (see para. 6 above), and we hereby designate it as the lectotype of that nominal species, the name of which will become a junior objective synonym of *C. tetracanthum*. The record of the specimen

in the National Parasite Collection has been amended as follows, in the anticipation that this application will be accepted by the Commission:- Parasite: CYATHOSTOMUM TETRACANTHUM. Class: NEMATODA Host: EQUUS ASINUS. Body location: COLON; CECUM Locality: AFRICA, EGYPT, CAIRO. Identifier: LOOSS, A. 5 FEB 1900 Collector: LOOSS, A. DEC 1899 Accession No.: 087757.00 Type: NEOTYPE. Storage No. MT2343F Comments: REDETERMINATION: 1 male. Neotype of *Strongylus tetracanthus* Mehlis, 1831 [= *Cyathostomum tetracanthum* of Looss, 1900]. Same male specimen is also designated lectotype of *Trichonema aegyptiacum* Railliet, 1923 [= *Cyathostomum aegyptiacum* (Railliet, 1923)].

12. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to set aside all previous fixations of type specimens for the nominal species *Strongylus tetracanthus* Mehlis, 1831 and to designate as neotype the specimen referred to in para. 11 above (U.S. National Parasite Collection, accession no. 087757.00);

(2) to place on the Official List of Generic Names in Zoology the name *Cyathostomum* Molin, 1861 (gender: neuter), type species by monotypy *Strongylus tetracanthus* Mehlis, 1831;

(3) to place on the Official List of Specific Names in Zoology the name *tetracanthus* Mehlis, 1861, as published in the binomen *Strongylus tetracanthus* and as defined by the neotype designated in (1) above (specific name of the type species of *Cyathostomum* Molin, 1861);

(4) to place the following names on the Official Index of Rejected and Invalid Generic Names in Zoology:
   (a) *Cylichnostomum* Looss, 1901 (a junior objective synonym of *Cyathostomum* Molin, 1861);
   (b) *Cylicostomum* Railliet, 1901 (a junior objective synonym of *Cyathostomum* Molin, 1861);

(5) to place the following names on the Official Index of Rejected and Invalid Specific Names in Zoology:
   (a) *hexacanthum* Wedl, 1856, as published in the binomen *Sclerostoma hexacanthum* (a junior objective synonym of *Strongylus tetracanthus* Mehlis, 1831);
   (b) *aegyptiacum* Railliet, 1923, as published in the binomen *Trichonema aegyptiacum* (a junior objective synonym of *Strongylus tetracanthus* Mehlis, 1831).

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Case 3084

Musca geniculata De Geer, 1776 and *Stomoxys cristata* Fabricius, 1805 (currently *Siphona geniculata* and *Siphona cristata*; Insecta, Diptera): proposed conservation of usage of the specific names by the replacement of the lectotype of *M. geniculata* by a neotype

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Abstract. The purpose of this application is to conserve the name *Siphona geniculata* (De Geer, 1776) in its accustomed usage for a very common tachinid parasitic on tipulid larvae which are serious pests, by replacement of the recently designated lectotype (a specimen of the taxon always known as *S. cristata* (Fabricius, 1805)) by a neotype. Acceptance of the lectotype would transfer the specific name *geniculata* to the species called *S. cristata*, and the species now called *S. geniculata* would be denoted by the specific name of *Musca urbana* Harris, 1780; the latter name had never been used as valid until 1996.

Keywords. Nomenclature; taxonomy; Insecta; Diptera; TACHINIDAE; *Siphona*; *Siphona geniculata*; *Siphona cristata*; *Siphona urbana*.

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1. De Geer (1776, p. 38 and pl. 2, figs. 19-22) described and named *Musca geniculata* on the basis of 'deux ou trois petites Mouches' that he had reared at his home in Sweden from host caterpillars (probably *Mamestra brassicae* Ochsenheimer, 1816; Lepidoptera, NOCTUIDAE). The species name refers to the geniculate proboscis with very elongated labella. This characteristic part of the body was described and discussed in detail on pp. 39-41, and illustrated in figs. 20–22. De Geer did not know that several similar species (now also in *Siphona* Meigen, 1803) exist in Sweden, and his description and drawings are not sufficient to identify the particular species concerned. The type specimens have long been believed to be lost, but they have recently been found again (see para. 7 below).

2. Four years after De Geer, Harris (1780, p. 153, pl. 45, fig. 85) described a fly *Musca urbanus* [sic] from England. This name was never used as valid in the subsequent literature, but it was cited as a synonym of *Siphona* (or *Bucentes*) *geniculata* (De Geer) in the catalogue of Bezzi (1907, p. 382) and in the check-list of Crosskey (1976, p. 100). The type material of Harris does not exist, but Andersen (1996, p. 96) has designated a neotype of *M. urbana*.

3. Fabricius (1805, p. 281) described and named *Stomoxys cristata* (currently in the genus *Siphona*). Its specific name in combination with *Siphona* or *Bucentes* has been consistently used in the literature for a species (or species complex) different from *Siphona geniculata*. The examination by Andersen (1982, p. 165) of the Danish female holotype of *S. cristata*, now in the Zoological Museum of the University of Copenhagen, has confirmed the correct application of this name by subsequent authors. *S. cristata* is a parasite of moth larvae.

4. Meigen (1803, p. 281) based his new genus *Siphona* on a fly with a description which resembled that of De Geer's *Musca geniculata*. In Opinion 1008 (BZN **30**: 157–158, June 1974) the Commission designated *M. geniculata* as the type species of *Siphona*. As set out in the application (BZN **27**: 234–237) by C.W. Sabrosky which gave rise to this Opinion, in 1803 Meigen had misidentified the species with which he was dealing as '*Conops irritans* Fabricius'; although Meigen later (1824, p. 161) realized his own error and cited *M. geniculata* De Geer as the first species in *Siphona*, the original mistake led to divergent interpretations of the generic name.

5. Boie (1838, p. 241) obtained many specimens of a parasitic fly in a rearing of the grass-devastating larvae of *Tipula oleracea* (or possibly *T. paludosa*) and identified them as *Siphona geniculata* (De Geer); this was the first record of a *Siphona* species being a parasite of TIPULIDAE (Diptera). Many years later Rennie & Sutherland (1920) published a detailed study of the life history of the same tachinid (identified by them also as *Siphona geniculata*) as a parasite of *T. paludosa*. This is the most common *Siphona* species collected in the field. However, it is not the same as the species reared by De Geer from Lepidoptera, a fact unrealized until the syntypes of *Musca geniculata* were found again and examined by Andersen (1996; see para. 8 below).

6. The first key for the identification of different species of *Siphona* was made by Staeger and published in Zetterstedt (1849, pp. 3210–3213). He used the name *S. geniculata* (De Geer) for the most common species in Scandinavia ('in Dania ubique frequens, sub tota aestate et autumno'), and differentiated it from *Siphona cristata* (Fabricius) largely on the basis of the abdominal bristles. Studies by more recent authors (for example by Mesnil, 1960) have improved the morphological descriptions and reduced the likelihood of misidentifications of *Siphona* species, and the usage of the name *Siphona* (or *Bucentes*) *geniculata* in the sense of Staeger has remained universally accepted. Important examples in recent publications are: Sabrosky (1971); Crosskey (1976, p. 100); Herting & Simmonds (1978, pp. 8–9, host records); Hackman (1980, p. 141); Andersen (1982, pp. 149, 157, 160, 168, and figs. 5, 7, 17, 32); O'Hara (1983, pp. 278, 299–300); Herting (1984, p. 125); Tschorsnig (1985, p. 88); Mihályi (1986, p. 214); Rognes (1986, p. 72); O'Hara (1989, pp. 115–116, 166); Bei-Bienko & Steyskal (1989, p. 1219 and fig. 905.6); Tschorsnig (1992, p. 41); Belshaw (1993, p. 103 and fig. 409); Herting & Dely-Draskovits (1993, p. 334); Tschorsnig & Herting (1994, pp. 75, 100, 106, 153); Pape, Richter, Rivosecchi & Rognes (1995, p. 27); Ziegler & Shima (1996, p. 425); Tschorsnig, Andersen & Blasco-Zumeta (1997, p. 26); Herting & Tschorsnig (1997, p. 87); and those cited in para. 7 below.

7. This species, the *Siphona geniculata* of authors, has been used in a biological control project against the European Crane Fly *Tipula paludosa* Meigen, 1830; this was accidentally introduced into Canada and the larvae (known in English as

leatherjackets) have caused much damage to pastures and meadows in British Columbia. Releases have been partly successful, and the tachinid has become established in parts of British Columbia (for details see Wilkinson (1971, pp. 54–57) and Kelleher & Hulme (1984, pp. 85–88)).

8. The type material of *Musca geniculata* De Geer, 1776 has long been considered lost, but recently it (two males and one female) has been rediscovered in the De Geer collection in the Naturhistoriska Riksmuseet, Stockholm, and Andersen (1996, p. 94) has designated one of the male specimens as the lectotype. All the specimens are identical with *Stomoxys cristata* Fabricus, 1805, and for this reason Andersen transferred the specific name *geniculata* to the species long known as *Siphona cristata* and adopted the unused name *Siphona urbana* (Harris, 1780) (see para. 2 above) for the species previously known as *S. geniculata*. Andersen noted that 'It could be argued that the 'old, traditional usage' of the name *geniculata* should be preserved, even if known to be incorrect. However, it is my opinion that the name has never had any long-standing and unambiguous usage because *Siphona* species have only recently been clearly defined by new and distinctive characters, especially in the genitalia.'

9. *Musca geniculata* De Geer, 1776 is the oldest nominal species in *Siphona*; as mentioned in para. 4 above, it is the type species of the genus and is recorded as such on the Official Lists. The name has been applied since the early 19th century to the most common *Siphona* species, which occurs in the temperate zone of the Palearctic region from Ireland to Japan, and has been released in North America for biological control of its insect host. Unfortunately, the recently discovered specimens in the De Geer collection, including the lectotype designated by Andersen (1996), correspond not to this species but to *Siphona cristata* (Fabricius, 1805). Transfer of the very well-known name *geniculata* to the latter species, and the introduction of the unknown name *urbana* Harris, 1780 for the common species until now called *geniculata*, as proposed by Andersen (1996), would create confusion and misunderstandings. This was recognized by Andersen himself (see para. 8 above), but regrettably he did not maintain stability by referring the case to the Commission and meanwhile retaining existing usage. The confusion is especially severe because of the transfer of the name *geniculata* from one species to another: in the future the literature on the genus (including that concerned with applied entomology) would be very difficult to follow. This transfer has so far not been adopted by any other authors except Ziegler (1998, pp. 160–161), and we propose the removal of the potential severe confusion by setting aside the lectotype of *Musca geniculata* De Geer and designating a neotype in accordance with the very long and settled usage of the name. We propose as neotype a male in perfect condition, collected in Sweden and now in the Museum of Zoology at Lund University with the following data on the label: 'Sk. Dalby, Ö. Mölla, 21.VII.1989, leg. R. Danielsson'.

10. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to set aside all previous fixations of type specimens for the nominal species *Musca geniculata* De Geer, 1776, and to designate as neotype the specimen in the Museum of Zoology, Lund University, mentioned in para. 9 above;

(2) to add to the entry on the Official List of Specific Names in Zoology for *Musca geniculata* De Geer, 1776 an endorsement recording that the species is defined by the neotype designated in (1) above;

(3) to place on the Official List of Specific Names in Zoology the name *cristata* Fabricius, 1805, as published in the binomen *Stomoxys cristata* and as defined by the holotype in the Zoological Museum, University of Copenhagen.

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Case 3131

Hybognathus stramineus Cope, 1865 (currently *Notropis stramineus*; Osteichthyes, Cypriniformes): proposed conservation of the specific name

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Abstract. The purpose of this application is to conserve the specific name of *Notropis stramineus* (Cope, 1865) for a freshwater fish known as the sand shiner (family CYPRINIDAE) from eastern and central North America. The name is widely used and almost universally accepted but is threatened by the little used *Cyprinella ludibunda* Girard, 1856 which in 1989 was rendered a senior subjective synonym. It is proposed that the name *ludibunda* be suppressed, together with the unused putative senior synonym *Alburnus lineolatus* Putnam, 1863.

Keywords. Nomenclature; taxonomy; Osteichthyes; Cypriniformes; CYPRINIDAE; freshwater fish; North America; sand shiner; *Notropis stramineus*; *Cyprinella ludibunda*.

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1. Girard (1856; see BZN **51**: 262–263, September 1994, for the date of publication) described 23 new genera and 133 new species of catostomid and cyprinid fishes, chiefly from the central and western United States, but including some from the eastern U.S. and northern Mexico. Girard's work is cited repeatedly and, although a majority of the new taxa are currently in synonymy, many are presently accepted as valid (nine genera, 37 species and several subspecies). No holotypes were designated, but syntypes were preserved and deposited in the United States National Museum (now the National Museum of Natural History, Smithsonian Institution) and the Academy of Natural Sciences of Philadelphia (ANSP). From these, specimens were distributed to several other museums, especially the Museum of Comparative Zoology, Cambridge, Massachusetts. The materials were collected by naturalists attached to the expeditions of the United States and Mexican Boundary Commission and the Pacific Railroad Survey. Collection data are often vague or obviously in error, and specimens are often poorly preserved. Subsequent study of syntypes indicates that many series are composite, including two or more species (see Suttkus, 1958; Bailey & Uyeno, 1964; C.R. Gilbert, 1978). Many descriptions are readily identifiable, but the quality of others is debatable, and some species were described under several names (about 12 for *Cyprinella lutrensis*).

2. Girard (1856, p. 35) described *Cyprinella ludibunda* as a new species. All the specimens found were said to be immature and the locality was 'not precisely known'. In 1989, R.L. Mayden and C.R. Gilbert discovered a long overlooked syntype (ANSP 2841, ex USNM 132) of *C. ludibunda* which they designated as the lectotype. The lectotype is, however, a specimen of *Notropis stramineus* (Cope, 1865), the sand

shiner (family CYPRINIDAE), a widely distributed, abundant and familiar fish from southern Canada, eastern and central United States, and northern Mexico. Mayden & C.R. Gilbert's (1989, p. 1085) lectotype designation rendered the specific name of *N. stramineus* a junior subjective synonym of *C. ludibunda* Girard, 1856, and they adopted the latter little-used name as valid.

3. For a period in the late 19th century, *Cyprinella ludibunda* was occasionally cited with brief, often confusing, statements drawn in part from Girard (1856). Jordan & C.H. Gilbert (1883, p. 171), using the name *Cliola ludibunda*, commented 'a dubious species, from Cottonwood Creek, Utah'. Jordan (1885, p. 124), using *Notropis ludibundus*, listed a specimen (S.I. 132) from Cottonwood Creek in the Museum of the Academy. Jordan & Evermann (1896, pp. 56, 273), using *N. ludibundus*, recorded the locality as unknown; the characterization is in part discordant with those of Girard (1856) and Jordan & C.H. Gilbert (1883). Without additional information, these accounts are not identifiable with the sand shiner.

4. Fowler (1910, p. 280, pl. 17, fig. 23) illustrated a 'cotype' of *Cyprinella ludibunda*, without locality, clearly the fish listed by Jordan (1885, p. 124) said to be S.I. [USNM] 132 in the Academy (ANSP 2841; see Böhlke, 1984, p. 82; C.R. Gilbert, 1998, p. 106). This is the lectotype of *C. ludibunda* designated by Mayden & C.R. Gilbert (1989). C.R. Gilbert (1978, pp. 48, 56–57) investigated the confusion about the type locality of *C. ludibunda* (and two other nominal species) and concluded that it should properly be 'Cottonwood River, ca 5 mi. NW of Durham, Marion Co., Kansas', a credible provenance for the sand shiner. C.R. Gilbert (1978) had regarded *C. ludibunda* as a senior synonym of both *Notropis stramineus* (Cope) and *Notropis volucellus* (Cope, 1865) since both species are included among the syntypes, but he considered it 'best to defer action on the problem at this time'.

5. Cope (1865, p. 283) described *Hybognathus stramineus* from Grosse Isle, Detroit River, Michigan on 'many specimens'. The species, which is currently regarded as having two subspecies (see Bailey & Allum, 1962; Tanyolac, 1973), had a troubled early nomenclatural history that included such names as *Alburnops blennius* Girard, 1856 (i.e. *Notropis blennius*, the river shiner) and *Moniana deliciosa* Girard, 1856. The history was reviewed by Hubbs (1926) who employed *Notropis deliciosus*, and Suttkus (1958) who resolved the earlier confusion by showing that the lectotype of *Moniana deliciosa* is a specimen of *Cyprinella texana* (Girard, 1856) (i.e. *Notropis texanus*), which name has since been generally adopted for the weed shiner (see C.R. Gilbert, 1978, p. 83). For the sand shiner, Suttkus (1958, p. 317) employed *Notropis stramineus* (Cope, 1865), which is defined by the lectotype specimen ANSP 4131 designated by Fowler (1910, p. 274, pl. 15, fig. 5), five paralectotypes ANSP 4132–4136 (see Böhlke, 1984, p. 92), and five paralectotypes UMMZ 213806 in the Museum of Zoology of the University of Michigan. Since 1958, the sand shiner has been termed *Notropis stramineus* (Cope) in scores of publications throughout its extensive geographic range (mapped by C.R. Gilbert in Lee et al., 1980, p. 314). These include four editions (1960 to 1991) of the American Fisheries Society's list of *Common and Scientific Names of Fishes from the United States and Canada*, widely followed by fishery workers. The fifth edition (Robins et al., 1991, pp. 23, 77) employed *Notropis stramineus* and noted: 'R.L. Mayden & C.R. Gilbert, 1989,

Copeia (4): 1084, showed that this name is a junior synonym of *Cyprinella ludibunda* Girard, 1856 (= *Notropis ludibundus*). However, this name has been unused since its proposal. A petition has been submitted to the International Commission on Zoological Nomenclature to conserve the familiar name *stramineus*. Until a decision is rendered, existing usage is retained under Article 80 of the Code'. However, the present case was not submitted until June 1999.

6. Additional treatises that employ *Notropis stramineus* for the sand shiner include:

General references: Eddy (1969); Eddy & Underhill (1974); Hocutt & Wiley (Eds., 1986); Moore (1968); Schmidt & Gold (1995).

Regional references: **Arkansas** — Robison & Buchanan (1988); **Canada** — Scott & Crossman (1973), McAllister (1990); **Great Lakes** — Hubbs & Lagler (1964, pp. vii, 77); **Illinois** — Smith (1979); **Indiana** — Nelson & Gerking (1968); **Kansas** — Metcalf (1966), Cross (1967); **Kentucky** — Clay (1975), Burr & Warren (1986); **Manitoba** — Fedoruk (1971); **Mexico** — Espinosa Pérez, Gaspar Dillanes & Fuentes Mata (1993); **Minnesota** — Phillips, Schmid & Underhill (1982); **Missouri** — Pflieger (1975); **Montana** — Brown (1971), Holton & Johnson (1996); **Nebraska** — Morris, Morris & Witt (1972); **New Mexico** — Sublette, Hatch & Sublette (1990); **New York** — Smith (1986); **Ohio** — Trautman (1981); **Ohio River** — Pearson & Krumholz (1984); **Oklahoma** — Miller & Robison (1973); **Ontario** — Mandrak & Crossman (1992); **Pennsylvania** — Cooper (1983); **Saskatchewan** — Atton & Merkowsky (1983); **South Dakota** — Bailey & Allum (1962); **Tennessee** — Etnier & Starnes (1993); **Utah** — Sigler & Sigler (1996); **Virginia** — Jenkins & Burkhead (1994); **Wisconsin** — Becker (1983); **Wyoming** — Baxter & Stone (1994). Although most of the publications above date from 1960 to 1988, ten appeared after Mayden & C.R. Gilbert's (1989) resurrection of *N. ludibundus*.

7. A few publications that appeared after 1989 have followed Mayden & C.R. Gilbert's recommended use of *Notropis ludibundus*. They include:

General references: Eschmeyer, Ferraris, Hoang & Long (1998); C.R. Gilbert (1998); Mayden, Burr, Page & Miller (1992); Page & Burr (1991); Rohde, Arndt, Lindquist & Parnell (1994); and Warren, Burr & Grady (1994).

Regional references: **Kansas** — Cross & Collins (1995); and **West Virginia** — Stauffer, Boltz & White (1995).

8. Putnam (1863, p. 9) established the new species *Alburnus lineolatus*, using a manuscript name assigned by Agassiz to specimens in the MCZ, Cambridge, Massachusetts in 1854. Putnam's brief description was: 'Body light brown with a broad silvery band having dark points, extending from the head to the caudal fin. Average length, two and a half inches. From the Osage River. Collected by Mr. G. Stolley'. Günther (1868, pp. 259–260) redescribed the species using the name *Leuciscus lineolatus*. *Alburnus lineolatus* was regarded as a questionable synonym of *Notropis scylla* (Cope, 1871) (= *N. stramineus*) by Jordan & Evermann (1896, p. 263). The cited description is certainly insufficient for definite identification. However, as C.R. Gilbert (1978, p. 55) indicated, C.L. Hubbs in 1958 identified a specimen in the Natural History Museum, London (BMNH 1867.4.12.15) received from the MCZ and likely to be a syntype of *A. lineolatus*, as *Notropis deliciosus* auct. (= *N. stramineus*). If the London specimen is a syntype of *Alburnus lineolatus* Putnam, its identification with *Notropis stramineus* is adequately confirmed by Günther's

redescription and Hubbs's determination. *Alburnus lineolatus* has not been employed as the name of the sand shiner during the 20th century.

9. The specific name of *Notropis stramineus* (Cope, 1865) is a familiar name in considerable use, retention of which will ensure nomenclatural stability for the species. Replacement by the senior synonym *Notropis ludibundus* (Girard, 1856) would considerably hinder communication among workers; some authors would adopt it while others would retain *stramineus*. I refer this application to the Commission in accord with Article 23b of the 1985 Code and Article 23.9.3 of the 4th Edition, which comes into effect on 1 January 2000.

10. Although there is no 'case law' in zoological nomenclature, it may be noted that the present case is completely analogous to the replacement of another name in use (*Notropis topeka* (C.H. Gilbert, 1884)) by an almost unused name (*Moniana tristis*) published by Girard (1856); that replacement was also by Mayden & C.R. Gilbert (1989) and again was dependant on their lectotype fixation for the unused name. In Opinion 1821 (September 1995) the Commission conserved the name *N. topeka*.

11. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to suppress the following specific names for the purposes of the Principle of Priority but not for those of the Principle of Homonymy:
   (a) *ludibunda* Girard, 1856, as published in the binomen *Cyprinella ludibunda*;
   (b) *lineolatus* Putnam, 1863, as published in the binomen *Alburnus lineolatus*;

(2) to place on the Official List of Specific Names in Zoology the name *stramineus* Cope, 1865, as published in the binomen *Hybognathus stramineus* and as defined by the lectotype designated by Fowler (1910);

(3) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the following names:
   (a) *ludibunda* Girard, 1856, as published in the binomen *Cyprinella ludibunda* and as suppressed in (1)(a) above;
   (b) *lineolatus* Putnam, 1863, as published in the binomen *Alburnus lineolatus* and as suppressed in (1)(b) above.

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Case 3122

Ichthyosaurus cornalianus Bassani, 1886 (currently *Mixosaurus cornalianus*; Reptilia, Ichthyosauria): proposed designation of a neotype

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Abstract. The purpose of this application is to designate a neotype for the Middle Triassic ichthyosaur *Mixosaurus cornalianus* (Bassani, 1886), the type species of *Mixosaurus* Baur, 1887 (family MIXOSAURIDAE). The original specimens no longer exist, and a previous neotype designation is not only probably invalid but the specimen chosen does not show the diagnostic features of the species as originally described. Proper typification of *M. cornalianus* is essential for studies of the MIXOSAURIDAE.

Keywords. Nomenclature; taxonomy; Ichthyosauria; *Mixosaurus*; *Mixosaurus cornalianus*; Triassic; Grenzbitumenzone; Besano Formation; Monte San Giorgio/Besano Basin.

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1. Bassani (1886, pp. 20–21) briefly described small (50–90 cm long) ichthyosaurs from the 240 My-old (Anisian/Ladinian) Middle Triassic 'Grenzbitumenzone' or Besano Formation of the Monte San Giorgio/Besano basin on the Swiss/Italian border between Ticino and Lombardia. He mentioned five specimens in the Museo Civico di Storia Naturale in Milan, of which four were almost complete. Although his description was short it included important information on the heterodontous dentition which unequivocally characterizes this species, for which Bassani (p. 20) established the name *Ichthyosaurus cornalianus*. The statement by Maisch & Matzke (1997, p. 725) that ' ... since Besmer (1947), it is generally recognised that the true *Mixosaurus cornalianus* has a quite isodontous dentition' is not relevant or correct. The proper application of the name was beyond the scope of Besmer's short work (a dental surgeon's dissertation), and the original information (Bassani, 1886 and Repossi, 1902) about the heterodontous dentition has been quoted repeatedly (e.g. Mazin, 1983, p. 409; Carroll, 1993, p. 269) and was cited by Besmer himself (p. 7) without comment.

2. In 1887, the year after Bassani's original report, Baur realized that the ichthyosaur described by Bassani differed from others in important respects and he (Baur, 1887a, p. 19) established for *I. cornalianus* the nominal genus *Mixosaurus*, which he placed in its own family MIXOSAURIDAE; see also Baur (1887b, p. 839). Several other species (and fragmentary remains) from various parts of the world have subsequently been placed in *Mixosaurus*, which is the most studied genus of Triassic ichthyosaurs (see for example Callaway (1997) and Motani (1997)).

3. Repossi (1902) described *M. cornalianus* in considerable detail and illustrated (pls. 8 and 9) one of Bassani's complete specimens and also parts of it and of others. These figures show clearly the heterodontous dentition and a characteristic postcranial element, the Y-shaped interclavicle, which are mentioned in the descriptions.

4. The type material of *M. cornalianus* in the Museo Civico di Storia Naturale in Milan was destroyed by bombing in 1943 (Pinna, 1967, p. 182). Pinna (p. 188) referred to one of the destroyed specimens as having been the holotype of *M. cornalianus*, but this is incorrect because (see para. 1 above) the species was based on several syntypes. Pinna (1967, p. 186) designated a specimen which had been given to the museum in 1965 as the 'Neoholotypus' of *M. cornalianus*; he gave a photograph (fig. 6) of this specimen, which he noted [in translation] had been 'neither studied nor published'. The type designation seems to have been made only as a 'matter of curatorial routine' in connection with cataloguing (see Pinna, 1967, footnote on p. 183) and it can be regarded as invalid under Article 75 of the then current and subsequent editions of the Code. The specimen, an articulated individual of 80 cm length, can be seen only from the dorsal aspect and shows no feature characteristic at the species-level (such as the dentition and interclavicle) as mentioned by Bassani (1886) and Repossi (1902) and repeatedly referred to by later authors, none of whom have used Pinna's neotype in the interpretation of *M. cornalianus*.

5. Maisch & Matzke (1997) and I (Brinkmann, 1998) have reported abundant *Mixosaurus* material, in the collections of Zürich and Tübingen Universities, from the Middle Triassic 'Grenzbitumenzone' or Besano Formation of the Monte San Georgio/Besano basin which, in contrast to *M. cornalianus*, shows an isodontous dentition and a non-Y-shaped interclavicle. This belongs to more than one species, and I (Brinkmann, 1998) further reported the presence of two morphotypes of '*M. cornalianus*' which represent distinct species. As noted by Maisch & Matzke (1997, p. 726), it is absolutely necessary to fix the identity of the nominal species *M. cornalianus* (Bassani, 1886) before the taxonomy of the genus *Mixosaurus* can be discussed with any clarity. Although, if the previous designation of a neotype by Pinna (1967; see para. 4 above) is regarded as invalid, it would be possible to designate a neotype under Article 75 of the Code, the case is referred to the Commission in the interests of stability and taxonomic progress.

6. One of the rare individuals which show the relevant features of *M. cornalianus* described by Bassani (1886) and Repossi (1902) is specimen T2420 in the Paläontologisches Institut und Museum der Universität Zürich (PIMUZ); this has been figured by Brinkmann (1998, figs. 10–12). The almost complete fossil is seen from the right side and is in a good state of preservation. The dentition is heterodontous (fig. 10) and the interclavicle (fig. 11) has the shape mentioned by Repossi. The designation of this specimen as the neotype of *M. cornalianus* would be in accord with the original description and subsequent understanding of the species and would facilitate future studies of the MIXOSAURIDAE.

7. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to set aside all previous fixations of type specimens for the nominal species *Ichthyosaurus cornalianus* Bassani, 1886 and to

designate as neotype the specimen T2420 in the Paläontologisches Institut und Museum der Universität Zürich mentioned in para. 6 above;

(2) to place on the Official List of Generic Names in Zoology the name *Mixosaurus* Baur, 1887 (gender: masculine), type species by original designation *Ichthyosaurus cornalianus* Bassani, 1886;

(3) to place on the Official List of Specific Names in Zoology the name *cornalianus* Bassani, 1886, as published in the binomen *Ichthyosaurus cornalianus* and as defined by the neotype designated in (1) above (specific name of the type species of *Mixosaurus* Baur, 1887).

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Case 3095

Mystacina Gray, 1843, *Chalinolobus* Peters, 1866, *M. tuberculata* Gray, 1843 and *Vespertilio tuberculatus* J.R. Forster, 1844 (currently *C. tuberculatus*) (Mammalia, Chiroptera): proposed conservation of usage of the names

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Abstract. The purpose of this application is to preserve the universal usage of the names of the two New Zealand bats *Mystacina tuberculata* Gray, 1843 (MYSTACINIDAE; the Lesser Short-tailed Bat) and *Chalinolobus tuberculatus* (J.R. Forster, 1844) (VESPERTILIONIDAE; the Long-tailed Bat). The introduction of *M. velutina* Hutton, 1872, a long disused junior objective synonym of *M. tuberculata*, has very recently been proposed on the mistaken grounds that the latter name is not available.

Keywords. Nomenclature; taxonomy; Mammalia; Chiroptera; MYSTACINIDAE; VESPERTILIONIDAE; *Chalinolobus*; *Mystacina*; *Chalinolobus tuberculatus*; *Mystacina tuberculata*; *Mystacina velutina*; bats; New Zealand.

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1. New Zealand has three currently recognised bats, the Lesser and Greater Short-tailed Bats, at present called *Mystacina tuberculata* and *M. robusta*, and the Long-tailed Bat, *Chalinolobus tuberculatus*. *M. robusta* was described (as a subspecies of *M. tuberculata* confined to small offshore islands) only in 1962; it does not concern us here. Specimens of the other two taxa had been brought to Europe by the early 1840s, but it was not originally realised that more than one species was involved even though the two are not closely related. This conflating of the two taxa caused initial confusion, as described below, but the usage of names is now long established. Because of this stability and because *M. tuberculata* and *C. tuberculatus* are the type species of their respective genera, we believe that this usage should be conserved. A proposal that *M. tuberculata* Gray, 1843 should be replaced by *M. velutina* Hutton, 1872 has been put forward very recently (Mayer, Kirsch, Hutcheon, Lapointe & Gingras, 1999), but we consider that this replacement is in accord neither with stability nor with the strict application of the Code.

2. During Cook's second voyage, in May 1773 Johann Reinhold Forster collected the first specimen of New Zealand bats known to Europeans, and in a manuscript described it as *Vespertilio tuberculatus*. This MS has been preserved in Berlin since

1799, but it remained unpublished for many years until it was edited and published by H. Lichtenstein in 1844 (see para. 6 below). J.R. Forster's son, George, illustrated the specimen, but this and other illustrations were separated from the MS and remained in the British Museum since soon after the voyage (Hoare, 1982); G. Forster's plate was not published for over 200 years but has been reproduced (in part) by Andrews (1986).

3. J.E. Gray worked in the British Museum, and so had access to G. Forster's painting; it was he who in January 1843 published the first available (non-MS) descriptions of New Zealand bats (Gray, 1843a). On p. 181, under the heading '*Vespertilio tuberculatus. G. Forster.* Icon. ined., n. 1', Gray gave a five-word description 'Yellowish brown; ears small, rounded' which unambiguously relates to the species now known as *Chalinolobus tuberculatus*, the Long-tailed Bat. Thomas (1905) argued, and we agree, that on p. 181 Gray was simply describing George Forster's unpublished illustration; both the insertion of the younger Forster's initial and the term 'Icon. ined.' show this. Moreover, the words are Gray's own and are not a translation of J.R. Forster's MS in Berlin, which was not mentioned in Gray's 1843 paper and would not have been easily accessible to him.

4. At the end of the same work (1843a, p. 296) Gray added a footnote: '*Vespertilio tuberculatus*, p. 181.— I have just received two specimens of this bat: it is a new genus, differing from *Embalonura*, Kuhl [recte *Emballonura* Temminck], and *Urocryptus*, Temm., in having ... [a seven line description follows] ... It may be called *Mystacina tuberculata*'. The description on p. 296 clearly refers to the Short-tailed Bat since known as *Mystacina* [or sometimes *Mystacops*: see para. 9 below] *tuberculata*. Later that year Gray (1843b, p. 34) reported the presence in the British Museum of the two specimens of 'The MYSTACINE. MYSTACINA tuberculata, *Gray, Dieffenb. Jour. App.* 296. Vespertilio tuberculatus, *G. Forster. Icon. ined. in Brit. Mus.* t. 1.'.

5. It is clear from the above that in 1843 Gray believed that he was dealing with a single species of bat from New Zealand. For this he used the specific name *tuberculatus*, taken from the title of G. Forster's unpublished picture, and, when he had examined two actual specimens, he proposed the name *Mystacina tuberculata* and used it as valid for the supposed single taxon. Pages 181 and 296 of Gray's work (1843a) were published at the same time and the work must be considered as a whole; when this is done it is evident that the single nominal species *Mystacina tuberculata* Gray, 1843 was established in the work, and that the two actual specimens and the specimen illustrated by G. Forster are the syntypes of this species (even though the last actually represented a different taxon).

6. In 1844 H. Lichtenstein published in Berlin a text (Forster, 1844) of J.R. Forster's journal, which had been written some 70 years earlier. On pages 62–64 this reported '*Vespertilio tuberculatus* F. *The New Zealand Bat*', accompanied by a detailed description in Latin. The species was based on a single male specimen which [in translation] 'survived two days after capture, was described by me and illustrated by my son'; the latter's picture was that seen by Gray (the actual specimen was never at the British Museum and is not in existence). The nominal species *Vespertilio tuberculatus* J.R. Forster, 1844 was established in this work; as already mentioned, the holotype of *V. tuberculatus* is one of the syntypes of *Mystacina tuberculata* Gray, 1843.

7. It was not until 1857 that it was realized that two distinct taxa were involved in the works described above. Tomes (1857, pp. 134–142, pls. 53, 54) gave detailed accounts, based on several specimens, of the Long-tailed and Short-tailed Bats under the respective names of *Scotophilus tuberculatus* Forster and *Mystacina tuberculata* Gray; he attributed the former name to Forster (1844) and the 'Icon. ined. in Brit. Mus.' and the latter to Gray's 1843 works. Tomes noted (p. 135) that 'as the above-mentioned zoologists have certainly been the first describers of two distinct animals, the names imposed by them will of course be retained; but it is much to be regretted that their specific names are similar; and the more so, as the one most recently given was clearly intended as a reference to the earlier known species'. By the 'most recently given' name Tomes meant Gray's use of *tuberculata*, but, as outlined above (and indeed as recorded by Tomes himself), by a curiosity of bibliographic history *Mystacina tuberculata* Gray, 1843 was in fact published as a valid name one year before the appearance of *Vespertilio tuberculatus* J.R. Forster for the other species.

8. Peters (1866, p. 680) established the nominal genus *Chalinolobus*, with *Vespertilio tuberculatus* Forster [initials and date unstated] as the type species by original designation (and also by monotypy); he mentioned that Tomes (1857) had placed the species in *Scotophilus*. The name *Chalinolobus tuberculatus* has been in use for the Long-tailed Bat throughout the 20th century, with authorship of the specific name ascribed sometimes to Forster and sometimes to Gray (see para. 9 below).

9. Hutton (1872, p. 185) proposed the replacement name *Mystacina velutina* for Gray's *M. tuberculata*, on the grounds that 'Dr. Gray named this bat *tuberculata*, under the impression that he was describing the *Vespertilio tuberculatus* of Forster ... as, therefore, Dr. Gray's name was given in error, and as confusion is likely to arise if both our bats have the same specific name, I propose to call this species *velutina* ...'. Hutton's replacement name *M. velutina* has been treated correctly by almost all workers as a junior synonym of *M. tuberculata* Gray: the only use of it we can find is by Thomas (1905, p. 423) as *velutinus*, in combination with the unnecessary replacement generic name *Mystacops* Lydekker, 1891 (Flower & Lydekker, 1891, p. 671; proposed because of supposed homonymy between *Mystacina* Gray and '*Mystacina*' [recte *Mystacinus*] Boie, 1822 (Aves)). Thomas erroneously considered that Gray's initial treatment of the two species as though they were one 'cut him [Gray] out' from being the author of the specific name of the Short-tailed Bat.

10. There is no doubt by anybody that the real inventor of the specific name *tuberculatus* was J.R. Forster, and that he applied this in his 18th century MS to the species now known as *Chalinolobus tuberculatus*. It was therefore not unreasonable, at the time, for Hutton (1872; see para. 9 above) to reject Gray's use of *Mystacina tuberculata*. However, the latter name has priority of publication, and under modern Codes it is valid and not to be rejected. Moreover, it has been in unambiguous, wide and universal use for this 'very remarkable species' (Dobson, 1878, p. 444) for very many years. It is in all New Zealand faunas, and examples of recent works using it are Daniel (1979), Hill & Daniel (1985), Daniel (1990) and Koopman (1993); further references have been given to the Commission Secretariat. *Mystacina* is the type genus of the family MYSTACINIDAE Dobson, 1875 (p. 349).

11. Very recently, Mayer et al. (1999) have argued that G. Forster is the author of *Vespertilio tuberculatus* as an available name (published in Gray, 1843a), that there is no such available name as *Mystacina tuberculata* Gray, 1843 (it is regarded as a

mere misidentification of *V. tuberculatus* G. Forster), and that the first available name for the Lesser Short-tailed Bat is *M. velutina* Hutton, 1872. However, this argument is not in accord with the facts, and nobody else (at least since Thomas, 1905; see para. 9 above) has considered *M. tuberculata* Gray, 1843 to be an unavailable name. As recounted above in paras. 3–5, the description in Gray (1843a) is in Gray's words, and G. Forster was not the author of an available name for the species in 1843 or at any other time.

12. Although the names *Mystacina tuberculata* and *Chalinolobus tuberculatus* have been in stable use for the two species for a very long time, and are both in accord with the Code, there are several reasons that lead us to refer the case to the Commission. The new challenge to the former name and the introduction of *M. velutina* by Mayer et al. (1999) is the most serious. Also, as we realised before we became aware of this action by Mayer et al., it might be argued under Article 49 of the Code that the application of the specific name *tuberculatus* to the *Chalinolobus* species, as well as to the mystacine, by Gray (1843) invalidated its use for the former species by all subsequent authors, including J.R. Forster himself (as of the 1844 publication) or Tomes (1857). Yet a third argument might be that, under modern Codes (Article 11e of the 1985 edition or Article 11.6.1 of the 1999 edition), Gray (1843) made *Vespertilio tuberculatus* available for the Long-tailed Bat by publishing it as a [supposed] synonym of *Mystacina tuberculata* which was adopted by later authors. None of these contrived approaches would be in accord either with stability or the simple reality (and usual acceptance) that *Mystacina tuberculata* and *Vespertilio tuberculatus* were adopted and published as valid for the two species in the publications of Gray (1843) and J.R. Forster (1844) respectively. It is desirable and urgent that the issues are put beyond dispute by a Commission ruling that the names are available from those works. We do not propose the designation of a lectotype or neotype for either of the species concerned, because the original specimens are not extant (or at least identifiable) and the distinction between the species is agreed by all.

13. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to place on the Official List of Generic Names in Zoology the following names:
   (a) *Mystacina* Gray, 1843 (gender: feminine), type species by original designation *Mystacina tuberculata* Gray, 1843;
   (b) *Chalinolobus* Peters, 1866 (gender: masculine), type species by original designation *Vespertilio tuberculatus* J.R. Forster, 1844;

(2) to place on the Official List of Specific Names in Zoology the following names:
   (a) *tuberculata* Gray, 1843, as published in the binomen *Mystacina tuberculata* (specific name of the type species of *Mystacina* Gray, 1843);
   (b) *tuberculatus* J.R. Forster, 1844, as published in the binomen *Vespertilio tuberculatus* (specific name of the type species of *Chalinolobus* Peters, 1866);

(3) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the name *Mystacops* Lydekker, 1891 (a junior objective synonym of *Mystacina* Gray, 1843);

(4) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name *velutina* Hutton, 1872, as published in the binomen *Mystacina velutina* (a junior objective synonym of *Mystacina tuberculata* Gray, 1843).

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Case 3121

Holochilus Brandt, 1835, *Proechimys* J.A. Allen, 1899 and *Trinomys* Thomas, 1921 (Mammalia, Rodentia): proposed conservation by the designation of *H. sciureus* Wagner, 1842 as the type species of *Holochilus*

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Abstract. The purpose of this application is to conserve the name *Holochilus* Brandt, 1835 for a genus of myomorphous neotropical marsh rats (family MURIDAE), and the names *Proechimys* J.A. Allen, 1899 and *Trinomys* Thomas, 1921 for hystricomorphous neotropical spiny rats (family ECHIMYIDAE). At present the type species of *Holochilus* is *H. leucogaster* Brandt, 1835, a species now known to be hystricomorphous and referable to the subgenus *Trinomys* of the genus *Proechimys*, thus rendering the names *Proechimys* and *Trinomys* junior synonyms of *Holochilus*. It is proposed that the myomorphous species *H. sciureus* Wagner, 1842 be designated as the type species of *Holochilus*, thus allowing the wide and extensive current usages of *Holochilus*, *Proechimys* and *Trinomys* to continue.

Keywords. Nomenclature; taxonomy; Mammalia; Rodentia; MURIDAE; ECHIMYIDAE; *Holochilus*; *Proechimys*; *Trinomys*; *Holochilus leucogaster*; *Holochilus sciureus*; marsh rats; spiny rats; Central America; South America; neotropics.

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1. For over 150 years the generic name *Holochilus* Brandt, 1835 has been used consistently for South American marsh rats, semiaquatic myomorphous rodents that are currently placed (see Musser & Carleton, 1993) in the family MURIDAE (subfamily SIGMODONTINAE). Broadly distributed from northern Argentina to Venezuela, these animals are well known as agricultural pests (see, for example, Massoia, 1974; Martino & Aguilera, 1989) and have recently been the subject of intensive cytogenetic research due to their unusual karyotypic variability (for example, Freitas et al., 1983; Aguilera & Perez-Zapata, 1989; Nachman & Myers, 1989; Sangines & Aguilera, 1991; Nachman, 1992a, 1992b). Descriptions of fossil murids referred to the genus *Holochilus* are increasingly common in the paleontological literature (for example, Steppan, 1996; Pardiñas & Galliari, 1998), and current usage is therefore entrenched in several research disciplines.

2. Usage is similarly well established for *Proechimys* J.A. Allen, 1899 (p. 264) and *Trinomys* Thomas, 1921 (p. 140), hystricomorphous neotropical spiny rats in the

family ECHIMYIDAE (subfamily EUMYSOPINAE). Species of *Proechimys*, which has traditionally included *Trinomys* as a subgenus (see Thomas, 1921; Moojen, 1948), are ubiquitous in the moist lowland forests of eastern Central America and tropical South America, where they have been the focus of numerous ecological and evolutionary studies (for example, Fleming, 1971; Benado, Aguilera, Reig & Ayala, 1979; Emmons, 1982; Forget, 1991; Aguilera & Corti, 1994; Janos, Sahley & Emmons, 1995; Garagna et al., 1997; Adler, 1998). A burgeoning literature on the taxonomy of *Proechimys* species (for example, Patton & Gardner, 1972; Gardner & Emmons, 1984; Patton, 1987; Pessôa, Oliveira & dos Reis, 1992; da Rocha, 1995; da Silva, 1998) has hitherto been unencumbered by problems of generic nomenclature.

3. Despite such widespread consensus, recent study of some long-neglected types in the zoological collections of the Russian Academy of Sciences has revealed that current usage of *Holochilus*, *Proechimys* and *Trinomys* cannot be maintained under provisions of the Code. The essential facts of this case are as follows.

4. Brandt (1835, p. 428) originally proposed *Holochilus* as a subgenus of *Mus* to contain his new species *Mus* (*Holochilus*) *leucogaster*, together with another species that he identified as *Mus* (*Holochilus*) *anguya* (a misspelling of *M. angouya* Desmarest, 1819). *Holochilus* was diagnosed in an accompanying footnote, wherein *Mus leucogaster* and *M. anguya* were both given as types of the new subgenus without making any distinction regarding their status as name-bearers. It is significant that Brandt had only a single stuffed specimen each of *M. leucogaster* and *M. anguya*, and that his descriptions and measurements were limited to external characters. Accompanying color plates (1835, pls. 12 and 13) of both species depicted rat-like animals with brownish upperparts, pale venters, small ears, large hindfeet and naked tails.

5. Brandt's material of *Mus leucogaster* and *M. anguya* had been collected (by Georg Heinrich Langsdorff) in Brazil, so Brandt cited published descriptions and illustrations of other rat- or mouse-like rodents then known from South America to support his identifications. His comparisons eloquently depict the widespread uncertainty about neotropical rodent identifications in the early 19th century: *Mus leucogaster* was compared to Azara's (1801) 'Rat à Tarse Noir', which is now recognized (see Myers & Carleton, 1981) as the diminutive scansorial mouse *Oligoryzomys nigripes* (Olfers, 1818), and to *Mus vulpinus* Brants, 1827, which is currently regarded (see Hershkovitz, 1955) as a junior synonym of the large marsh rat *Holochilus brasiliensis* (Desmarest, 1819). Brandt's identification of his *M. anguya* was justified by citation of Azara's (1801) description of the 'Rat Angouya', which is now recognized (see Musser, Carleton, Brothers & Gardner, 1998, pp. 300–319) as *Oryzomys angouya* (Fischer, 1814). What is consistent about these otherwise disparate comparisons is that they all involve myomorphs. Clearly, Brandt never suspected in 1835 that his two *Holochilus* species might be more closely allied with agoutis, guinea pigs, capybaras and other hystricomorphs. Indeed, the crucial distinction between myomorphs and hystricomorphs was not recognized until the publication of Brandt's own monographic description of the major variants of rodent jaw anatomy in 1855.

6. In the meantime, Wagner (1842a, 1842b, 1843) and Burmeister (1854) used *Holochilus* to contain several additional neotropical rodent species. Because Brandt's original material in St Petersburg was not available for direct comparisons,

Wagner and Burmeister based their taxonomic assignments on his (1835) published descriptions and illustrations of *H. leucogaster* and *H. anguya*. All of the additional taxa that Wagner and Burmeister referred to *Holochilus* were muroids, including three nominal species of marsh rats: *Mus brasiliensis* Desmarest, 1819, *Mus vulpinus* Brants, 1827, and *Holochilus sciureus* Wagner, 1842a. Based on readily accessible types in western European museums, these three species formed the core of subsequent usage for *Holochilus* as ultimately refined by Thomas (1897) and perpetuated by all 20th century students of the South American rodent fauna (for example, Gyldenstolpe, 1932; Tate, 1932; Ellerman, 1941; Hershkovitz, 1955; Cabrera, 1961; Massoia, 1981; Voss & Carleton, 1993).

7. Wagner's and Burmeister's assumptions about the identity of *Holochilus* were mistaken, however, as Brandt himself soon discovered. In two footnotes to his classic monograph on rodent classification, Brandt (1855, pp. 304, 315) explained that he had extracted the crania from the specimens described in 1835 (presumably mounted for exhibition with the skulls inside, a common 19th century practice) and found that they were of the 'hystricine' (hystricomorphous) type. Recognizing his own mistake concerning the identity of Desmarest's *Mus angouya* (a myomorph), Brandt proposed the name *H. langsdorffii* for the taxon that he had previously called *H. 'anguya'*, and classified *Holochilus* in the family Spalacopodoides of his suborder Hystrichomorphi. To contain the myomorphous species referred to *Holochilus* by Wagner (1842a, 1842b, 1843) and Burmeister (1854), Brandt proposed the new genus *Holochilomys*, which he placed in the family Myoides of his suborder Myomorphi.

8. Unfortunately, Brandt's timely and appropriate nomenclatural action was overlooked by almost all of his mammalogical contemporaries. As far as we are aware, only Peters (1861) ever used the name *Holochilomys* as Brandt intended (i.e. for a myomorphous genus), but he cited no bibliographic source for the name. Thomas (1897, p. 496, footnote) puzzled over Peters's (p. 151) unsupported reference to '*Holochilomys* (*Holochilus* Wagn. nec Brandt)', but dismissed the implied discrepancy in usage, declaring that 'Wagner's *Holochilus* ... is unquestionably identical with Brandt's ...'. Palmer (1904, p. 329) was also baffled, and suggested that '*Holochilomys* Peters' might have been an 'emendation' of *Holochilus* Brandt. Probably because *Holochilomys* seemed to be a nomen nudum coined by Peters (1861) for no clearly explained reason, the name was not subsequently mentioned for decades (for example, by Tate, 1932; Gyldenstolpe, 1932; Ellerman, 1941; Hershkovitz, 1955). To the best of our knowledge, the last reference to this forgotten name in the mammalogical literature was by Cabrera (1961, p. 503), who listed without comment '*Holochilomys* Peters, 1861' as a junior synonym of *Holochilus*.

9. The type species of *Holochilus* remained unfixed until 1902, when Miller & Rehn (p. 89) so designated *Mus* (*Holochilus*) *leucogaster* Brandt, 1835. There is no evidence, however, that either author had ever seen Brandt's material, and their fixation of the type species was apparently uninformed by any special knowledge of nomenclatural consequences.

10. We recently examined the types of Brandt's neotropical rodents, which are currently housed in the Zoological Institute of the Russian Academy of Sciences (ZINRAS). The holotype of *Holochilus leucogaster* consists of a skin and skull with mandibles catalogued as ZINRAS 219 in the Department of Mammalogy. The

holotype of *H. langsdorffii* likewise consists of a skin and skull (ZINRAS 218), but lacks mandibles. Both skins correspond exactly with Brandt's (1835) illustrations and descriptions of external morphology (with the exception of their obviously faded colors), and the morphology of both skulls is consistent with Brandt's (1855) remarks concerning zygomasseteric structure.

11. In fact, the type specimens of *Holochilus leucogaster* and *H. langsdorffii* are both terrestrial spiny rats referable to the echimyid genus *Proechimys* J.A. Allen, 1899, but current usage would assign these specimens to different subgenera. Whereas the holotype of *H. langsdorffii* exhibits all of the diagnostic external and craniodental characters of the nominotypical subgenus of *Proechimys*, the holotype of *H. leucogaster* exhibits the diagnostic attributes of the subgenus *Trinomys* Thomas, 1921 (see Moojen, 1948, for subgeneric diagnoses). Therefore, if the Code is followed, the species of spiny rats now placed in the subgenus *Trinomys* of *Proechimys* should henceforth be placed in the nominotypical subgenus of *Holochilus*, and the species of spiny rats now placed in the nominotypical subgenus of *Proechimys* should henceforth be placed in the subgenus *Proechimys* of *Holochilus*. For the marsh rats currently known as *Holochilus*, the only available generic name would then be *Holochilomys*. For reasons explained in paras. 1 and 2 above, these nomenclatural changes would be most unfortunate.

12. To preserve current usage, it is necessary to set aside *H. leucogaster* Brandt as the type species of *Holochilus* and to select a new type species. *Holochilus sciureus* Wagner, 1842a (p. 17) is an appropriate choice for the type species because: (a) it was the first species of South American marsh rat to be referred to *Holochilus*; (b) the holotype is still extant in the Zoologische Staatssammlung, Munich (letter from M. Hiermeier to G.G. Musser, February 1996); (c) the locality where the type specimen was collected (Rio São Francisco, Brazil) is known; and (d) an illustration of the occlusal morphology of the upper molars of the holotype has been published (Massoia, 1981, fig. 1). We propose that *H. sciureus* Wagner, 1842 be designated the type species of *Holochilus* Brandt, 1835. This action will remove *Proechimys* J.A. Allen, 1899 and *Trinomys* Thomas, 1921 from the synonymy of *Holochilus*, thus allowing the wide and extensive current usages of all three names to continue.

13. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to set aside all previous fixations of type species for the nominal genus *Holochilus* Brandt, 1835 and to designate *Holochilus sciureus* Wagner, 1842 as the type species;

(2) to place on the Official List of Generic Names in Zoology the following names:
   (a) *Holochilus* Brandt, 1835 (gender: masculine), type species by designation under the plenary powers in (1) above *Holochilus sciureus* Wagner, 1842;
   (b) *Proechimys* J.A. Allen, 1899 (gender: masculine), type species by original designation *Echimys trinitatis* J.A. Allen & Chapman, 1893;
   (c) *Trinomys* Thomas, 1921 (gender: masculine), type species by original designation *Echimys albispinus* I. Geoffroy Saint-Hilaire, 1838;

(3) to place on the Official List of Specific Names in Zoology the following names:
   (a) *sciureus* Wagner, 1842, as published in the binomen *Holochilus sciureus* (specific name of the type species of *Holochilus* Brandt, 1835);

(b) *trinitatis* J.A. Allen & Chapman, 1893 (p. 223), as published in the binomen *Echimys trinitatis* (specific name of the type species of *Proechimys* J.A. Allen, 1899);

(c) *albispinus* I. Geoffroy Saint-Hilaire, 1838 (p. 886), as published in the binomen *Echimys albispinus* (specific name of the type species of *Trinomys* Thomas, 1921).

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Case 3018

Cervus gouazoubira Fischer, 1814 (currently *Mazama gouazoubira*; Mammalia, Artiodactyla): proposed conservation as the correct original spelling

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Abstract. The purpose of this application is to conserve the spelling of the specific name of *Cervus gouazoubira* Fischer, 1814 for the brown brocket deer of South America (family CERVIDAE). This spelling, rather than the original *gouazoupira*, has been in virtually universal usage for almost 50 years.

Keywords. Nomenclature; taxonomy; Mammalia; Artiodactyla; CERVIDAE; *Mazama gouazoubira*; brown brocket deer; South America.

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1. Fischer (1814, p. 465) established the names *Cervus gouazoupita* and *C. gouazoupira* for the two Paraguayan brocket deer that Azara (1802, pp. 51, 57) described under the vernacular names Guazu-pita and Guazu-bira. Azara (1802) used the Guarani Indian name spelled in the Latin alphabet as Guazu-pita (p. 51; spelled Gouazupita in the 1801, p. 82, French translation) for the red brocket. In the same work he used the Guarani name Guazu-bira (p. 57; spelled Gouazubira in the 1801, p. 86, French translation) for the brown brocket. Fischer (1814) cited Azara (1802) as the sole source of these names and descriptions but (pp. xvii, 701) he spelled the vernacular name for the brown brocket as Guazupira, instead of Guazubira, and introduced *gouazoupira* as the specific name (in combination with *Cervus*).

2. For most of the 19th and first half of the 20th centuries a number of additional names were given to red and brown brocket deer, some authors also basing their names on Azara's descriptions and Guarani vernacular names. As the systematics of brown brocket deer became better understood, the common and widespread brown brocket became known as *Mazama simplicicornis* (Illiger, 1815). Fischer's (1814) *Cervus gouazoupita* is the common red brocket, for which the name in use is the earlier synonym *Mazama americana* (Erxleben, 1777).

3. Hershkovitz (1951, p. 567) pointed out that '... *M*[*azama*]. *gouazoubira* Fischer (1814, *Zoognosia*, **3**: 465, originally misprinted '*gouazoupira*'; antedates *simplicicornis* Illiger, 1815, also based on Azara's gouazoubira)'. Authors familiar with Azara's accounts of the quadrupeds of Paraguay (as was Hershkovitz) would have recognized Fischer's 'Guazu-pira' (and the derived specific name *gouazoupira*) as a misspelling of 'Guazu-bira'. Nearly universally, subsequent authors (see, for example, Miller & Kellogg, 1955; Hall & Kelson, 1959; Walker et al., 1964 and later revisions; Whitehead, 1972; Husson, 1978; Corbet & Hill, 1991 and previous editions) have used the spelling *gouazoubira*, as emended by Hershkovitz nearly 50 years ago.

Cabrera (1961, p. 338) adopted *gouazoubira* and noted Fischer's (1814) spelling *gouazoupira* as 'lapsus evidente por *gouazoubira*'. Of 19 citations listed under *Mazama* for the common brown brocket in *Zoological Record* from 1985 (volume 122) through 1995 (volume 131), 18 used the spelling *gouazoubira* and one used the junior synonym *simplicicornis*. Grubb (1993, p. 391), however, introduced the spelling *gouazoupira*, stating that 'although the specific name is based on the gouazoubira of Azara, the original spelling was '*gouazoupira*' not '*gouazoubira*''. Grubb (1993) was cited in vol. 130 of *Zoological Record* but was not referenced under *Mazama*.

4. I have prepared a list of publications for 1993 and later in which the brown brocket deer has been cited. The list, which may be missing some usages particularly in the South American literature, contains 12 references. Of these, one (Miglino, de Souza, Carvahal & Didio, 1993) adopted the name *simplicicornis*, another (Fonseca et al., 1996) used the spelling *gouazoupira*, but all the rest maintained the usage of *gouazoubira*. These references are: Bisbal, 1994; Yanosky & Mercolli, 1994; Douzery, Labreton & Catzeflis (1995); Pacheco et al. (1995), Richard, Julia & Acenolaza (1995); Peres (1996); Yang, O'Brien, Weinberg & Ferguson-Smith (1997); Yang et al. (1997); Medellín, Gardner & Aranda (1998) and Nowak (1999). The references include publications on taxonomy, ecology, genetics and parasitology, as well as regional and national checklists.

5. The Guarani Indian names 'guazu-pita' and 'guazu-bira' (or dialectical variants) are widely used regional vernaculars for the red and brown brocket deer respectively of Paraguay, parts of Uruguay, northern Argentina and southern Brazil. Adoption of the spelling *gouazoupira* for the brown brocket will create confusion anywhere the red brocket is known as the 'guazu-pita' and the brown brocket as 'guazu-bira'. I therefore propose that the spelling *gouazoubira*, which has been virtually universally in use for very nearly 50 years for the brown brocket deer, be maintained.

6. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to rule that the correct original spelling of the specific name *gouazoupira* Fischer, 1814, as published in the binomen *Cervus gouazoupira*, is *gouazoubira*;

(2) to place on the Official List of Specific Names in Zoology the name *gouazoubira* Fischer, 1814, as published in the binomen *Cervus gouazoubira* (spelling emended by the ruling in (1) above);

(3) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name *gouazoupira* Fischer, 1814, as published in the combination *Cervus gouazoupira* (ruled in (1) above to be an incorrect original spelling of *gouazoubira*).

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).

Comment on the proposed designation of *Bithinia deschiensiana* Deshayes, 1862 and *Paludina desmarestii* Prévost, 1821 as the respective type species of *Euchilus* Sandberger, 1870 and *Stalioa* Brusina, 1870 (Mollusca, Gastropoda)
(Case 3008; see BZN **55**: 82–86; **56**: 187)

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Bouchet (BZN **56**: 187, September 1999) asserts that 'contrary to the statement in para. 3 of the application, 'the majority of authors' have not accepted *Bithinia deschiensiana* Deshayes, 1862 as the type species of *Euchilus*' but instead have accepted *Paludina desmarestii* Prévost, 1821, and cites four works to support his view, although in the original publication six works were quoted in which *Bithinia deschiensiana* was stated to be the type species. These were Sandberger (1872), Clessin (1880), Cossmann (1888), Schlickum (1968), Kadolsky (1993) and Kabat & Hershler (1993). I can add three more to support Bouchet's assertion, i.e. Schlickum (1961, 1965) and Roman (1912), but the two works of Wenz (1926, 1939) are erroneously included here (see next para.). Thus five publications by four authors stated *Paludina desmarestii* to be the type species of *Euchilus*, compared with six papers by seven authors accepting *Bithinia deschiensiana*. Considering that Schlickum (1968) corrected his earlier (1961, 1965) view, these earlier two papers may be discounted. At any rate, these differing views illustrate that there is no state of nomenclatural stability which deserves to be preserved; instead, a decision to create stability is required. It is not argued here that majority usage alone should be decisive, but that the intention of the original publication and the consequences of any Commission decision should also be considered.

Wenz (1926, 1939) treated *Euchilus* Sandberger, 1870 as a synonym of *Stalioa* Brusina, 1870, but he did not state the type species of the former. As he included (1926) *Bithinia deschiensiana* Deshayes (incorrectly cited in the synonymy of '*Stalioa gregaria* Bronn, 1829'; see Kadolsky, 1993 for the nomenclature and identity of this nominal species) as well as *Paludina desmarestii* in the genus *Stalioa*, it is not clear which of the two he considered to be the type species of *Euchilus*. As Wenz was very familiar with Sandberger's work (1870–75), which he revised extensively in the *Fossilium Catalogus* (1923–1930) and before (for example, in Fischer & Wenz, 1912 and 1914), he would more likely than not have noted and, of course, accepted Sandberger's designation (1872, p. 225) of *Bithinia deschiensiana* as the type species of *Euchilus*.

Paludina desmarestii Prévost, 1821 is (unless the Commission intervenes as requested) the type species of *Euchilus* Sandberger only by accident, i.e. the advance publication (1870) of the combination '*Euchilus Desmarestii* Prév. sp.' in a plate legend appearing earlier than the text (1872) in which Sandberger stated *Bithinia deschiensiana* Deshayes to be the type species. All authors except myself (Kadolsky, 1993) appear to have overlooked that *Euchilus* is available from this plate legend, as the name is always dated as 1872 and reference, where made, is only made to the text of 1872. Authors may have believed that a new nominal taxon is not made available

by publication in a plate legend alone. Under the premise which these authors accepted, that the name *Euchilus* was only made available in the text, *Bithinia deschiensiana* Deshayes would become the type species by original designation and the subsequent designation of *Paludina desmarestii* Prévost would be plainly erroneous. None of the authors who believed the latter to be the type species of *Euchilus* gave any reasoning for this view, but an oversight is the most likely explanation.

The main reason for Sandberger to introduce the new genus *Euchilus* was the presence of a calcareous, concentrically structured operculum. This was described by Deshayes (1862) only for *Bithinia deschiensiana*. Sandberger merely assumed it to be present in the other species which he included in *Euchilus*. Thus, the intended type species is the only one which actually shows the principal diagnostic feature of the genus. (It may be doubtful whether this operculum does belong to *Bithinia deschiensiana*, but in this context only the intention of Sandberger is relevant).

No valid reason has been given by Bouchet to support his wish to secure the synonymy of *Stalioa* and *Euchilus* by making them objective synonyms, contrary to Sandberger's intention and contrary to subsequent usage by the majority of authors. If the two candidate type species of *Euchilus* were congeneric, *Euchilus* and *Stalioa* would become subjective synonyms, without the need for any action by the Commission; in this case I would prefer that *Stalioa* should have precedence over *Euchilus*, as the exact dates of publication within 1870 of both names are not known. However, I (Kadolsky, 1993) demonstrated that the relationship between *Paludina desmarestii* and *Bithinia deschiensiana* is very remote, and that no generic name other than *Euchilus* can be considered for use for a genus which includes *Bithinia deschiensiana*. I refrained from introducing a new name because of the existence of *Euchilus* Sandberger, 1870, expecting that the Commission would validate it with the originally intended type species. If *Paludina desmarestii* were to become the type species of *Euchilus*, a new generic name would have to be introduced for *Euchilus* sensu Kadolsky (1993), based on the current assessment of the taxonomy.

In the case of *Stoliva* Fuchs, 1877, I would agree that there is generally no need for the Commission to suppress erroneous spellings but it should be possible to make exceptions in order to avoid ambiguity and doubt. Fuchs twice spelt the name '*Stoliva*', and suppression would remove the technical possibility of accepting this spelling as an intentional introduction of a new nominal genus.

In summary, the original proposals and their justification are maintained.

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Comment on the proposed conservation of *Hydrobia* Hartmann, 1821 (Mollusca, Gastropoda) and *Cyclostoma acutum* Draparnaud, 1805 (currently *Hydrobia acuta*) by the replacement of the lectotype of *H. acuta* with a neotype; proposed designation of *Turbo ventrosus* Montagu, 1803 as the type species of *Ventrosia* Radoman, 1977; and proposed emendation of spelling of HYDROBIINA Mulsant, 1844 (Insecta, Coleoptera) to HYDROBIUSINA, so removing the homonymy with HYDROBIIDAE Troschel, 1857 (Mollusca)

(Case 3087; see BZN **55**: 139–145; **56**: 56–63, 143–148, 187–190)

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(1) The first modern author to critically revise the genus *Hydrobia* Hartmann, 1821 in Western Europe was Dollfus (1912). He was clearly aware of the existence of two taxa: one with flattened whorls and the other with convex whorls. Dollfus used the name *Hydrobia stagnalis* Baster, 1765, described from the Kaaskenswater near Zierikzee, The Netherlands, for the species with convex whorls (with *Turbo ventrosus* Montagu as a synonym). The species was referred to by Linnaeus (1767) as *Helix stagnalis*, a name which was replaced as a junior secondary homonym of *Helix stagnalis* Linnaeus, 1758 (currently placed in *Lymnaea*) with *Helix stagnorum* by Gmelin (1791). The identity of *H. stagnorum* was fixed by the designation of a neotype by Bank, Butot & Gittenberger (1979) and it is currently placed in *Heleobia* Stimpson, 1865 (family HYDROBIIDAE, subfamily COCHLIOPINAE Tryon, 1866). Most (if not all) records of *stagnalis* Baster or *stagnorum* Gmelin before the publication of Bank et al. (1979) in fact refer to *Turbo ventrosus* Montagu, 1803. That this is the case with '*stagnalis*' as used by Dollfus (1912) is shown by his clear pictures, description and distribution records, and by his own synonymy. The identity of *ventrosus* Montagu was fixed by a lectotype designated by Bank, Butot & Gittenberger (1979). The species intended and described by Radoman (1977) as the type of *Ventrosia* is evidently *T. ventrosus*. Thus, I agree that this should be designated the type species of *Ventrosia*, as proposed in the application.

(2) Dollfus (1912) considered the species with the flattened whorls to be conspecific with *Hydrobia acuta* (Draparnaud, 1805), and his description, figures and distribution show that he referred to the species later characterized by Radoman (1977). Dollfus (1912, pl. 4) figured two syntypes of *Cyclostoma acutum*, obtained from the Draparnaud collection (Naturhistorisches Museum, Vienna). The uncertainty expressed by Giusti, Manganelli & Bodon (1998; para. 6 of their application and BZN **56**: 145) about the syntypic status of these two specimens (now housed in the Muséum National d'Histoire Naturelle, Paris) seems to be unfounded. The syntype figured by Dollfus (1912, pl. 4, figs. 6 and 7) is clearly the species with the flattened whorls, *H. acuta*; that in pl. 4, figs. 5 and 8 is partially encrusted. It is the latter specimen that Boeters (1984, pl. 1, fig. 1) designated the lectotype of *C. acutum*. Because of the encrustations the convexity of the whorls was not obvious and it is understandable that Dollfus overlooked that this specimen actually belonged to the species with convex whorls (i.e. *Turbo ventrosus*). The two syntypes figured by Dollfus (1912) are with certainty the same two specimens figured by Boeters in 1984. The remaining four

specimens figured by Dollfus (pl. 4, figs. 11–18; two from Palavas and two from Étang de Leucate) clearly belong to the species with the flattened whorls. This species (*H. acuta*) is common along the Mediterranean coast, whereas the species with the convex whorls (*Ventrosia ventrosa*) is common along the Atlantic coast. Several authors, such as A.J. Wagner (1928, p. 275), Germain (1931, pp. 647–650), Wenz (1939, p. 555), Forcart (1965, p. 73), Gasull (1965, p. 145), Alzona (1971, pp. 30–31) and Radoman (1977, pp. 205–209) treated *H. acuta* and *V. ventrosa* as separate taxa and/or applied the name *acuta* to the species with the flattened whorls (see Hoeksema, 1998, p. 110 for additional references). Radoman (1977) described and figured both the shell and the anatomy of *H. acuta* and suggested the original locality.

(3) Boeters (1984, pp. 3–5) studied the two syntypes of *Hydrobia acuta* and discovered that they were different species: the taxon with the convex whorls and that with the flattened whorls. He fixed the identity of *H. acuta* by designating the specimen with the convex whorls as its lectotype (para. (2) above). However, the shell of this specimen does not differ from *V. ventrosa* and as a consequence *H. acuta* formally became a junior synonym of *V. ventrosa*. This was noted by Giusti & Pezzoli (1984). Remarkably, Boeters has not synonymized *H. acuta* with *V. ventrosa* (see Backhuys & Boeters, 1974, p. 114; Boeters, 1976, p. 98; 1984, pp. 3–5; 1988, p. 189). Only in his most recent revision of the HYDROBIIDAE of middle Europe has Boeters (1998, p. 24) shown awareness of the conspecificity of the lectotypes of *H. acuta* and *V. ventrosa* ('Möglicherweise sind Taxa wie *acutum* Draparnaud 1805 [*Cyclastoma*] und *procera* Paladilhe 1874 [*Hydrobia*] jüngere Synonyme'). He has not referred to the papers of Giusti et al. (1984, 1995) and Haase (1993), who criticized his lectotype selection.

(4) Although the lectotype selection by Boeters (1984) formally fixed the identity of *Hydrobia acuta*, it has not, and cannot, result in nomenclatural stability. This is not surprising because if *H. acuta* becomes invalid as the name of the species with the flattened whorls, the question arises as to how this species should be named. Boeters (1980, 1984, 1988) has referred to it as *Hydrobia glyca* (Servain, 1880), *Hydrobia* sp. and *Hydrobia* (*Hydrobia*) *minoricensis* (Paladilhe, 1875), respectively. All subsequent authors (examples are Giusti et al., 1984, 1995, 1998; Cesari, 1988; Haase, 1993; Hoeksema, 1998; Kabat & Hershler, 1993; Kadolsky, 1995; Gittenberger et al., 1998) have followed the interpretation of Radoman (1977) and not Boeters's (1984) lectotype selection.

(5) According to Boeters (1984, p. 4), selection of the *H. acuta* lectotype also stabilized the current understanding of the genus *Hydrobia*. He characterized the penis and bursa in *Hydrobia* as 'pfriemförmig' (awl shaped) and 'hammerförmig' (hammer shaped) respectively, anatomical characters essentially based on dissections of *Hydrobia ventrosa*. However, these features are by no means diagnostic for *Hydrobia*. For example, Boeters (1988, pp. 189–192; 1998, p. 24) placed in *Hydrobia* (*Hydrobia*) not only *ventrosa* (= *acuta* sensu Boeters), but also *minoricensis* Paladilhe (= *acuta* sensu Radoman). The last species does not show a long and pointed penis, nor a hammer-like bursa.

(6) As I have noted, Boeters's (1984) lectotype designation threatens the nomenclatural stability of a wide-spread and common species, known since the revision of Dollfus (1912) as *Hydrobia acuta*, and it has not been followed by subsequent authors. Clearly, this situation needs to be resolved. The application by Giusti,

Manganelli & Bodon to set aside the lectotype is in accord with the concept stated in the Preamble of the Code 'to promote stability and universality in the scientific names of animals'. The proposed neotype selection of Giusti et al. will maintain the name and concept of the genus *Hydrobia* as currently understood by the majority of authors and I therefore fully support the application.

(7) Naggs et al. (BZN **56**: 143–144) have commented that Giusti et al. have not proposed a neotype from among the series of 74 paralectotypes. However, Draparnaud (1805) did not record a locality for *Cyclostoma acutum*, either in the original publication (other than 'France' in the title) or on the labels of the original type series. Selection of a neotype from among the paralectotypes would have the unwanted consequence that the type locality of *C. acutum* would remain unknown. Moreover, in France there is more than one species with less convex shells having a similar appearance to that of *Hydrobia acuta*. The HYDROBIINAE are often poorly defined by shell characters, whereas the genitalia are much more characteristic. The proposed neotype selection will have the advantage that not only will a precise locality be fixed, but anatomical data as well, and the identity of *H. acuta* will be unambiguously secured.

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Comment on the proposed conservation of *Disparalona* Fryer, 1968 (Crustacea, Branchiopoda)

(Case 2990; see BZN **54**: 89–91; **55**: 105, 169; **56**: 191)

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1. The describer of the genus *Phrixura*, P.E. Müller (1867), did not know that the individual of '*Phrixura rectirostris*' on which it was based was a teratologically

distorted animal, and that it was actually a specimen of the species known to him as *Alona rostrata* (Koch, 1841), which he dealt with and illustrated in the same paper (P.E. Müller, 1867, pp. 182–183). It is perfectly clear that had Müller known the teratological nature of this individual he would not have erected a new genus and species for its reception. On the contrary, had he known this, without the least difficulty he would have identified this problematic individual as the species well known to him as *A. rostrata*. This means that *Phrixura* is a junior synonym of *Alona* Baird, 1843. The creation of the new genus *Phrixura* was based on an unfortunate error. It is not in accord with the Code to support such a lapsus, especially when it concerns a species (*rostrata*) that has been internationally recognised as valid for more than 130 years since its publication.

2. The name *Phrixura* was never used for more than 120 years and cannot be employed on the basis of nomenclatural usage unless special grounds are put forward, which is not the case.

3. As noted in para. 6 of the application, Michael & Frey (1984) expressly referred to *Phrixura rectirostris* as a synonym of *Disparalona rostrata*, and clearly stated that it 'is an abnormal specimen of *D. rostrata*'. I can only fully and entirely agree. In no way, however, can I agree with Frey's later (1989) change to adopt the name *Phrixura*. This is a classic case of how a rigid, literal interpretation of the Code led to a completely unprofitable and harmful introduction of an unused name.

4. Given this state of affairs (paras. 1–3 above), I wish to protest that it is not a trifling matter to ignore the significance of the fact that the name *Disparalona* Fryer, 1968 has been in unambiguous and common use for about 30 years among specialists familiar with this group of animals (cf. Grygier's comment on BZN **55**: 105, June 1998).

5. A morphologically comprehensive presentation and description of the taxon concerned were given by Michael & Frey (1984) under the name of *Disparalona rostrata*. It would be an irresponsible destabilisation of the nomenclature used for this species should *Phrixura rostrata* be adopted. Such a measure would stand in contradiction to the spirit and intention of the Code as clearly stated in the Preamble and Article 23b of the 1985 edition (Article 23.2 in that of 1999).

6. All decisive points, which unambiguously speak for a rejection of the name *Phrixura* P.E. Müller, 1867, have been convincingly set out by Fryer in Case 2990. I have nothing to add to them and stand fully and entirely behind the application.

7. In 1972 in the *Tierwelt Deutschlands* series I used the name *Disparalona rostrata* for the branchiopod in question (para. 7 of the application). In a new taxonomic monograph of the Cladocera of Central Europe, to appear in the year 2000, I will also be employing this name for the taxon since this is manifestly in the interest of nomenclatural stability.

Comment on the proposed designation of a single neotype for *Hemibagrus nemurus* (Valenciennes, 1840) (Osteichthyes, Siluriformes) and *H. sieboldii* (Bleeker, 1846), and of the lectotype of *H. planiceps* (Valenciennes, 1840) as a neotype for *H. flavus* (Bleeker, 1846)
(Case 3061; see BZN **56**: 34–41, 200–201)

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I have been working and have published on several of the taxa mentioned by the authors of Case 3061; I fully support their conclusions and application and recommend that the Commission accepts their proposals. However, I note two minor mistakes. The first is only a detail, and the second is remedied by a lectotype designation which contributes to the nomenclatural stability within this group.

Ng et al. write (paras. 2 and 4 of their application) that *Bagrus planiceps* Valenciennes, 1840 was described from two specimens collected by Kuhl and van Hasselt. I assume this was based on Valenciennes's remark 'nous en avons vu de quatre et de huit pouces de longueur', but this could encompass more than two specimens; Valenciennes clearly stated that there was one specimen in Paris and others in Leiden, and this is corroborated by the present holdings of those museums (see para. 4 of the application). This detail does not change anything about the need for a lectotype designation for *B. planiceps*, as made by the authors in para. 10 of the application.

Ng et al. also write in paras. 2 and 4 that *Bagrus anisurus* Valenciennes, 1840 was based on a single specimen, i.e. a holotype. I disagree. The description starts [in translation] 'Messrs Kuhl and van Hasselt have had a third bagre painted in Java, of which they have sent samples [plural] to the museum in Leiden etc.'. Valenciennes did write in the account of the species 'The individual which we have described is 14 inches long', but the specimens in Leiden were included in the species and are therefore syntypes. Furthermore, the description ends 'In the liquor [alcohol], it appears pale brown on the back, and whitish grey under the belly; but when fresh as in the figure, the whole upper part is olivaceous', and there is no reason to suppose that both parts of this sentence refer to a single specimen painted when fresh and then preserved and now in Paris.

In line with the argument by Ng et al. that the names of the nominal species now in *Hemibagrus* should be defined, I here designate the specimen NNM 2956 in Paris as the lectotype of *Bagrus anisurus* Valenciennes, 1840; this is the specimen assumed by Ng et al. to be the holotype.

As stated at the outset, I support the proposals in the application by Ng et al.

Comments on the proposed conservation of the specific name of *Varanus teriae* Sprackland, 1991 (Reptilia, Squamata)
(Case 3043; see BZN **54**: 100–103; 250–251; **55**: 37–39, 111–114)

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Rather belatedly I wish to comment on this application, submitted by Profs R.G. Sprackland and H.M. Smith and Dr P.D. Strimple in BZN **54**: 100–103 (June 1997).

Although the 'Code of Ethics' (Appendix A in both the 3rd and 4th editions of the Code) and many of the Code's important Recommendations were blatantly flouted in the Wells & Wellington (1985a) work at the core of this case, leading many workers to reject all or part of the publication, the Code of Ethics and Recommendations are not mandatory. The Commission noted (BZN **48**: 337–338, December 1991) that 'the provisions of the Code apply to all names directly and indirectly involved in this

[Wells & Wellington, 1985] case, and that it will be guided in future submissions by the criteria of usage, nomenclatural stability and the views of the zoological community which it serves'.

Because both specific names of *Odatria keithhornei* Wells & Wellington, 1985 and *Varanus teriae* Sprackland, 1991 are young and both are in use, the choice of either name will not impact on stability or universality of nomenclature, and so there is no basis for invoking the plenary powers. Therefore the mandatory provisions of the Code should apply, with the senior synonym (*Varanus keithhornei*) being confirmed as the valid name of the taxon.

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In answer to previous comments on this case, we wish to reiterate that the second Wells & Wellington publication (1985a) was unobtainable via several libraries at the time (1982–1989) that one of us (R.G.S.) undertook revisionary work on the *Varanus prasinus* species group of monitor lizards. In our view this is more relevant than the fact that a few people had copies. We suspect that most copies were distributed after Sprackland's own (1991) publication. Why, otherwise, could no major library provide either 1985 Wells & Wellington paper when he did his literature searches; did no museum have anything other than the 1983 Wells & Wellington publication; and did the Queensland Museum, who published Sprackland's paper (1991) after a number of alterations requested by reviewers, not inform him that a name for the tree monitor from northeastern Australia, based on specimen QMJ31566 in the Queensland Museum, had already been published?

The choice of specific name for the tree monitor is between *Varanus teriae*, which is now eight years old, and *V. keithhornei*, now 14 years old. The synonymy between the two names was not realized until 1994. In the time that *teriae* has been published it has had considerable usage, which has continued since recognition of the synonymy (see para. 3 of the application; to the list of references may be added Rehák & Velenský, 1997).

Cogger (above) seems to think that because both names are relatively recent stability is not at stake. He fails to realize the importance of his own works, which regularly used the junior of the two names, *V. teriae*. Stability is a product not only of frequency of usage but also of the influence thereof. Cogger's works are the most important guides for biologists in general to the herpetology of Australia, and thereby are of much more significance than little-noted, incidental usages. And there is where the weight of stability rests.

In our view, and contrary to that of Drs T. Ziegler and W. Böhme (BZN **55**: 112), the ability to use stable nomenclature for the inclusion of species and subspecies in CITES and other conservation legislative documentation is an important issue. Taxonomists are the servants of all those who use scientific names and work to serve those needs, not to establish an authority to which everyone must subscribe whether in accord with stability or not. We believe that our aim must be to provide an environment of nomenclatural stability in which biologists may work with confidence.

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Comment on the proposed suppression of all prior usages of generic and specific names of birds (Aves) by John Gould and others conventionally accepted as published in the *Proceedings of the Zoological Society of London*

(Case 3044; see BZN **54**: 172–182; **55**: 176–185)

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We are the authors of the original paper under consideration as Case 3044. Various points covered by Schodde & Bock (1997), the comments of Olson (1998) and the response of Schodde & Bock (1998) [as cited above] require further comment. It should also be noted that our paper, although dated 1990, was published in 1991, as pointed out by McAllan (1992).

1. Inconsistencies in the use of reports published in *The Athenaeum*, *The Literary Gazette* and *The Analyst* prompted our review of these serials. The first two were of considerable importance for many years as general sources of information covering the sciences and other fields. The third was a short-lived journal from the 1830s and one of several from this period affecting zoological nomenclature. As an example of inconsistency, we pointed out that although *The Athenaeum* is accepted for *Balaeniceps rex* (a very brief but adequate description) in a standard work (Kahl, 1979), there were other names variously mentioned or overlooked, with equal claims to priority. Also, we deplored the proposal for suppression of a name from *The Literary Gazette* without the actual reference being examined (LeCroy, 1988; LeCroy & Bock, 1989), an action invalid for other reasons, as we discussed (Bruce & McAllan, 1991).

2. The latter example prompted us to provide verbatim extracts of the relevant references in our paper to facilitate an evaluation of our findings and to avoid the argument of the rarity or inaccessibility of the sources (a pointless criticism in view of the rarity and inaccessibility of many sources long accepted in avian nomenclature). We found hundreds of nomina nuda in our investigations but only discussed those names identifiable by descriptive details. For example, we did not discuss *D*[*inornis*]. *dromaeoides* because it is a nomen nudum in *The Literary Gazette*. The only nomen nudum we did discuss was *Sitta ferrugineoventris* in *The Athenaeum*

because Hartert & Steinbacher (1932) accepted it as an available synonym of *S. castanea*. As to the other names, these were interpreted under the application of the 3rd Edition of the Code to the status of the names at their time of publication last century. For example, *Chrysococcyx minutillus* was indeed the smallest cuckoo of this group known at the time, and the *Proceedings of the Zoological Society of London* [*PZS*] reference also stated this point (Gould, 1859).

3. We also covered mammals in the same format as birds (McAllan & Bruce, 1990). So far, there has been no attempt at blanket suppression of our findings, probably because the catalogue of Australian mammals already had been published (Walton, 1988). In fact, some of our findings have been used in major reference works (Corbet & Hill, 1992; Wilson & Reeder, 1993).

4. Olson's example of *The Zoologist* as another possible source of earlier publication of names is a valid point and needs further investigation. At the time we chose to exclude from our study long-running natural history serials well known to specialists of the period, e.g. *Annals and Magazine of Natural History*. A more important point is that if we extended our research to daily newspapers, we may find further earlier dates of publication of many more names. For example, Sulloway (1982) cited a report of a Zoological Society meeting from 1837 in three dailies (*Morning Herald*, *Morning Chronicle*, *Standard*) before its appearance in *The Athenaeum*. Newspapers often have been used as the original references of avian names, e.g. *The Sydney Morning Herald* (*Trichoglossus* [= *Charmosyna*] *amabilis* — Mayr, 1945; see also Watling, 1982); *The Kentucky Gazette* (*Chlidonias* – Rhoads, 1912; see also Peters, 1934); of 37 names proposed by Wilhelm Blasius, 20 first appeared in a local newspaper, *Braunschweigische Anzeigen*, and it is accepted as the original publication source in standard references (cf. Hinkelmann & Heinze, 1990); as well as various Australian examples (Whitley, 1938, as indicated by Schodde & Bock — see also Whittell, 1954, e.g. under Diggles, Ramsay; and Ingram, 1990 for De Vis). Indeed, given the number of Australasian taxa named in newspapers, we are amazed that Schodde & Bock had any problem with our findings at all.

5. As Schodde & Bock pointed out, we were present at the SCON meeting in Vienna in August 1994. In considering the issue of suppression we voted neither for nor against. We assumed that at least one of us, a member of SCON (MDB), would see a draft of the proposed submission for comment prior to any publication in the *Bulletin of Zoological Nomenclature*, or at least receive advice that it was to be submitted. Knowing that several years may elapse between proposal and submission, we were surprised to see it appear in the *Bulletin* in 1997 in a form where any input from us had been denied.

6. We regarded our paper as a forum for further assessment of our findings and expected some of our conclusions to be revised. We summarised our interpretations in an appendix and indicated where suppression seemed appropriate. However, no action had been taken by us on these points as we awaited further discussion of our paper and also intended to expand our investigations on related issues in other publications, particularly that of newspapers as sources of names.

7. We did not expect BZN to be the forum for discussion. Olson's interpretations have clarified some of our findings with consequent ad hoc changes to the original proposal by Schodde & Bock. These changes demonstrate our point that further revision of our findings was needed, not total suppression as a quick solution.

8. The proposal for blanket suppression is obviously because of concerns by the senior author, R. Schodde, to avoid considering the possible effects of our findings on Australian birds. We assume that the findings of Olson requiring Schodde & Bock to emend their original proposal are because they do not affect Australian birds. In stark contrast to this approach, compare how such issues affecting North American birds are handled. For example, Banks & Browning (1995) discussed a number of cases, including at least two where suppression is required. Their findings indicate that Oberholser (1974) is the chief source requiring their attention. These are all dealt with on a case by case basis. We assume that if Oberholser's publication had been on Australian birds, the entire work would have been submitted to the Commission for blanket suppression.

9. The motive behind the submission for suppression seems to be more concerned with changes to original citations and dates than with the issue of nomenclature. On the one hand, Schodde & Bock credit 'any zoologist with a knowledge of the alphabet' as being able to handle the growing subsidiary literature of suppression of names, yet also patronise them as being endlessly confused if our findings were to be absorbed into the literature. Are we to assume that Australian zoologists in particular are more prone to confusion than others?

10. Schodde & Bock are also concerned about changes to original citations of avian names as they appear in standard references, many now out of date (original citations and standard references). Such changes have always been a very small proportion of the total, e.g. North American birds (Olson, 1987; see also AOU, 1997). Emending and correcting citations continues, particularly with the dating of older works, e.g. Banks & Browning (1979), Browning & Monroe (1991), Poggi (1996) and Wheeler (1998). Changes to dates of citations are readily accepted where necessary (e.g. Schodde & Mason, 1997), yet while clarifying inconsistencies, they conflict with those already published in standard references. Should we suppress date corrections because of this conflict? Schodde & Bock imply such a necessity, particularly if a species subsequently has been 'gazetted by legislation', in the case of *Psephotus chrysopterygius*, but this change does not affect its protection under law. As to standard references cited by Schodde & Bock, the *Catalogue of Birds in the British Museum*, long out of date, was based on the 12th edition of Linnaeus [1766], not the 10th [1758], as now. The *Catalogue* is also a source of numerous emendations to established names on the grounds of purism, a practice no longer accepted. Peters's *Check-list of Birds of the World*, our current standard reference (Bock, 1990), nevertheless has instances of erroneous and confused citations and dates, incorrect synonymies, overlooked subspecies and even a name where the citation could not be found (but see Mees, 1986, p. 147). However, such necessary changes are, like our findings and those for North American birds, a very small proportion of the total. A number of citations in standard references are incorrect for other reasons. For example, the original name for the Sooty Albatross *Diomedea* [= *Phoebetria*] *fusca* is cited to Hilsenberg (1822), but if one checks the quoted source, one will find that the name actually appeared earlier in a German newspaper and the standard citation is merely an abstract of it. A further problem with many original citations is that they contain no information relevant to the subsequent acceptance of a taxon. For example, *Geophaps scripta peninsulae*, named in 1922, was not correctly diagnosed for 60 years (Frith, 1982). A more unusual example is the case of *Corvus mellori*, a name

proposed as a subspecies in 1912 and subsequently applied to a new species identified in 1967 because the type specimen of *mellori* (since lost) apparently belonged to it. Mayr (1971) considered the taxon to be a new species even though 'our queer rules of nomenclature' required the application of a name whose author 'did not appreciate at all the distinctness of this bird'.

11. Schodde & Bock accuse Olson and us of shoddy research in relation to Bonaparte (1855). First of all, Schodde & Bock misquote the name, it should read '*Somateria v.-nigrum*' (Bonaparte included the hyphen). Bonaparte's discussion is indeed anecdotal but the young bird quoted from his account by Schodde & Bock relates to one shown to Bonaparte by a 'M. Hardy, de Dieppe' from Hardy's private collection. Bonaparte then links his remarks on this specimen to several specimens, and drawings made before they were collected, seen in London with Gray at the British Museum. He then indicated that he agreed with Gray that in imitation of a name used for a butterfly by Linnaeus, the distinctive marking of this new species could be represented by *Somateria v.-nigrum*. Bonaparte clearly linked the distinctive new name, based on the duck's most diagnostic character, to the British Museum type material. We consider the name identifiable from Bonaparte (1855). On the matter of interpreting these remarks as joint authorship of Bonaparte & Gray, Bonaparte gave an explicit example in his preceding paragraph where we find '*Xylocota jamesoni*, Jard. et Bp.'. Yet if one turns to standard references (Peters, 1934; Hellmayr & Conover, 1948) this joint attribution is indicated in quotation marks but authorship is credited solely to Bonaparte. If the conclusion of Schodde & Bock is accepted, then there are literally hundreds of cases where authorship needs to be emended in the citations of original sources of names. Such an action would not conflict with the provisions of Art. 50 of the Code.

12. The concluding comments of Schodde & Bock focus on changes to the sources of names as being of greater concern than any real effect our paper may have on nomenclatural stability. In our opinion, the argument that quoting an earlier source of a name vs. *PZS* obscures important details does not preclude use of an earlier valid publication of a name. The Code is concerned with the source of a name meeting the definition of a publication (Art. 8), not where it is published. The argument of the role of original citations as sources of information on type specimens is misleading not only because *PZS* does not always mention them (as with most of Gould's) but because there are a great number of examples of later type designations (e.g. Schodde & Mason, 1997). Moreover, Gould himself did not acknowledge his own earlier publication of many of his new names (Bruce & McAllan, 1991, p. 455).

13. We conclude that where established nomenclature may be affected by an unnecessary change of name or application of name, not the published source of the name, then suppression may be warranted. Otherwise, as in North America's case, we prefer the discussion and resolution of issues of nomenclature on a case by case basis with any need for formal suppression applied as sparingly as possible. We oppose the concept of blanket suppression, as proposed in Case 3044 by Schodde & Bock, and support a more reasoned approach where only specific cases requiring suppression are proposed.

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Systematic ornithology is indebted to Bruce and McAllan on two particular counts. First, at considerable effort, they sifted out and collated a raft of undiscovered first publications of bird names in several popular mid-18th century periodicals so comprehensively (Bruce & McAllan, 1991) that the Standing Committee on Ornithological Nomenclature (SCON) of the International Ornithological Congress could deal with their treatment quickly and effectively (Schodde & Bock, 1997). This course has now been opened to the International Commission on Zoological Nomenclature, by Case 3044 which the SCON (and we) commend.

Bruce and McAllan's second contribution is their present opposition (above) to Case 3044. Because of its tortuous nature, their argument exposes with glaring clarity the real consequences of opting instead for 'reasoned' case-by-case discussion and resolution of the names in question. It would embroil us in didactic word-games and protracted debates that could carry on for years and, apart from keeping key issues of nomenclature and source references for names in limbo, involve the Commission in up to 20 Opinions, and potentially many more. The prospect is daunting, and out of all proportion to the importance of the issue; quite frankly, Bruce and McAllan have 'lost the plot'.

In contrast, Case 3044, which has as its sole objective the maintenance of stability for the nomenclature and source references of 6 generic and 45 specific names, offers a simple, straight-forward single-Opinion solution: it clears the decks of the so-far unused names and references. Its grounds have already been covered and explained in detail by Schodde & Bock (1997, 1998) and need no further advocacy here. Morever, its provisions are the preferred solution by the great majority of the SCON, and, we stress again, were passed without dissent at the Vienna meeting of the SCON at which both Bruce and McAllan were present.

Only the case of *Somateria v-nigrum* G.R. Gray needs revisiting because issues raised by Bruce and McAllan affect a recommendation of Case 3044. We have consulted two different copies of the paper in which Bonaparte (1855) first used the name, and in both it is spelled simply '*v.nigrum*', without the hyphen (cf. Bruce & McAllan). More importantly, we continue to find no explicit and unambiguous connection between the juvenile diagnosed by Bonaparte and the undescribed material in the British Museum named '*Somateria v.nigrum*'. Such ambiguity and

differences of interpretation are further reason for treating Gray's (1856) use of the name as the first available, as proposed in Case 3044.

In conclusion, Bruce and McAllan take us to task for not consulting them on the formulation of Case 3044 — but have obviously forgotten why.

At the meeting at which the SCON directed us to prepare the proposal, we asked them to do it. They refused, one of them commenting to the effect that they had done their part in digging up the unused names and now it was up to others to provide solutions.

Comment on the proposed conservation of usage of 15 mammal specific names based on wild species which are antedated by or contemporary with those based on domestic animals

(Case 3010; see BZN **53**: 28–37, 125, 192–200, 286–288; **54**: 119–129, 189; **55**: 43–46, 119–120; **56**: 72–73)

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1. Gentry, Clutton-Brock & Groves address a contentious issue and their recommendations have received much support, but the consequences of their application are still unclear. Their agenda obliges us to consider wild names to the exclusion of other issues. Yet beyond this restricted remit it raises questions which should be answered prior to adjudication on the application itself. Approval may otherwise amount to a fait accompli, leaving problems to be settled by further appeal to the Commission. The submission suggests that there is a majority usage which should override application of the Code; junior species names should be retained for populations which are regarded as conspecific with others, to which senior names are assigned. The Commission is effectively asked to rule that certain species-group names are to be applied to particular populations within taxa (hence restraining the subjective use of synonymy), without requesting a general ruling on their priority. The application is therefore unusual. In the guise of a nomenclatural ruling, it is eliciting a systematic decision from the Commission (see Gardner in BZN **54**: 125–126). Doubtless the Commission will carefully consider whether it is appropriate to use its plenary powers in such a context.

2. The formal request 'that the name for each of the wild species' listed is not invalid by virtue of being antedated by a name based on a domestic form' does not specify that the wild names must be used in the form of binomina. A trinomen — for example *Bos taurus primigenius* — would be within the letter of the request, for the wild name would retain validity. Although this is not what Gentry et al. intend, it is the literal meaning of their formal request that must be addressed. Perhaps it requires revision.

3. The application has insufficient space to discuss each of the 15 taxa separately. Such different instances as *Camelus ferus* and *Canis lupus* are lumped together. Not all the species have experienced 'traditional' separate naming for wild and domestic forms. *Bos mutus*, *Camelus ferus*, *Bubalus arnee* and *Equus africanus* were foisted upon the scientific community as replacements for species names based on domestic

types (see Bohlken, 1958), even where the domestic name had been in customary usage for the whole species and the nomenclature had been stable. There are few references in the *Zoological Record* to wild populations of African asses, Bactrian camels, water buffaloes or yaks during the last 20 years and either wild or domestic names are being used for them. There are hardly any references to tarpans. Przewalski's wild horses are most commonly cited as *E. przewalskii* rather than *E. ferus przewalskii*. For the animals mentioned in this paragraph, evidence for a strong feeling to retain the 'wild' species names is deficient - hardly majority usage — and the preponderant concept in the scientific community has been of whole or 'global' species, domestic, feral and wild populations included, bearing the earliest available (domestic) name. Nowak (1991) for instance cited *Equus asinus*, *Camelus bactrianus*, *Bubalus bubalis* and *Bos grunniens* as the names of the species, and so did Zeuner (1963) in his authoritative 'History', with the addition of *E. caballus ferus*.

4. Strong feelings have been expressed concerning 'wild' and 'domestic' names. It would be 'theoretically irrelevant' and 'grossly disruptive to long-standing nomenclature' (see Corbet, 1997) to include domestic animals within the appropriate biological species. Yet it is also anomalous to justify systematic treatment on the basis of long usage. Long usage could keep the North American red fox as a separate species *Vulpes fulvus* from the European *V. vulpes*, for instance, though we know better. The 'traditional' separate naming of domestic and wild forms, to which Gentry et al. refer, exists mainly by default, not by general approbation and does not have to be perpetuated. I am at a loss to see how a double nomenclature is so particularly felicitous where the domestic or wild status of archaeological material is contentious (see Corbet in BZN **53**: 193). There is no difficulty in using a single species name for both domestic and wild populations among birds, pigs, rabbits, rats or mice, so there can be no need for separate naming per se, although this defence is constantly being pressed.

5. The authors of the application do not request rulings that wild and domestic populations should be treated as separate species or that 'domestic' names should be suppressed; they expressly omit evaluation of their status (Gentry, Clutton-Brock & Groves, BZN **54**: 127–129). Yet questions raised by Schodde and others (BZN **54**: 123–127) still deserve answers. What options or constraints arise from the application? Do we approve of them? Which name should systematists adopt in referring to the whole species if they consider wild and domestic populations to be conspecific (see Bock in BZN **54**: 125)? If both *Bos taurus* and *Bos primigenius* are in currency, which is the name of the species? Would a formalisation of the 'traditional' double nomenclature (see Schodde in BZN **54**: 123 124 and Bock in BZN **54**: 125–126) be forced upon us or not? Would ostensibly single biological species be divided into separate wild and domestic species (a systematic interpretation masquerading as a nomenclatural decision)? Using the name *Bos primigenius* for both domestic cattle and aurochs (see Macdonald, 1984), and *Equus ferus* for the domestic horse (see Duncan, 1992) may become more common unless implications relating to priority and synonymy are clearly set out and uncertainties are resolved.

6. The application pre-empts the many unresolved systematic or nomenclatural issues concerning mammal species experiencing domestication, though there is no space to enumerate the references here. What does one conclude from challenges to the availability of *Bos primigenius* and *Ovis orientalis*? Is the type population of *Cavia*

aperea wild or feral? Is it conspecific with the domestic guinea pig anyway? Is the name based on a guinea pig rather than some other caviid? Are domestic asses, river buffaloes and Bactrian camels different taxa from wild populations, having originated from different wild subspecies? Was the tarpan truly wild? It is premature to make nomenclatural proposals when even wild status, or ancestry of domestic populations, are not yet clear.

7. The principal objective of the Code is to promote stability and universality in the scientific names of animals. To achieve this objective we should treat each species separately, review systematics, and evaluate both 'wild' and 'domestic' names. Usage should be assessed and not assumed. Only then would it be decided what species name could be adopted, subject to ruling by the Commission where needed. Some domestic names would be used as names of species; others might be suppressed or discarded. Systematic opinion is supposed to be paramount in determining synonymy and must be clearly reflected in the nomenclature. Provision of a single name for each biological species is, I suggest, superior to the 'double' names format, seemingly an inevitable outcome of the present application. Domestic names as names of species would not pose unique problems. Nomenclature is always at risk from changes in systematic opinion, from new discoveries, and new interpretations. Erstwhile minority usage becomes the norm; check-lists are soon out of date. It would be a mistake to think that systematic stability is an attainable goal. Purely systematic decisions continue to change the names of well-known and familiar mammals. Thomson's gazelle, *Gazella thomsonii*, is to be assigned to *Eudorcas rufifrons*; *Palaeoloxodon antiquus* becomes *Elephas namadicus*; and vigorous discussions are in progress concerning species limits in *Galago*, *Callithrix*, *Pan*, *Canis*, *Ovis* and many other genera. Authors, including CITES, are able to handle changes and come to terms with their consequences. They are not obliged to follow new or unpalatable systematic opinions yet feel no need to direct dissent towards the Commission. They remain free to treat domestic and wild populations as separate species if they so wish. Where appropriate we should retain senior names based on domestic animals, unrestrained within the nomenclature of biological species and subspecies. Our apocryphal customs officer will not be fooled by a label; he has already addressed more intransigent cases (Marshall, 1990). Workers dealing with wild mammals are intelligent beings. They would understand what was meant by *Camelus bactrianus ferus*, *Bubalus bubalis arnee* or *Equus caballus przewalskii*.

I am grateful to Anthea Gentry for information and discussion, for suffering my persistent argumentativeness, and for helping to stimulate some of the ideas expressed above.

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Ampullarius de Montfort, 1810 (Gastropoda) Op. 1913
Atramentarius Buckland & Agassiz in Buckland, 1838 (Coleoidea) Op. 1914
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Belemnosepia Buckland & Agassiz in Buckland, 1836 (Coleoidea) Op. 1914
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